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ABSTRACT

This handbook was written to review current research on multigrade instruction, to identify key issues faced by multigrade classroom teachers, and to offer novice teachers a set of resource guides for improving instructional quality. The first chapter reviews previous research on multigrade instruction. It addresses questions regarding the effect of multigrade instruction on student performance and the training needed to teach in a multigrade classroom. The other chapters of the handbook cover topic areas considered essential for effective multigrade instruction: (1) classroom organization; (2) classroom management and discipline; (3) instructional organization and curriculum; (4) instrucational delivery and grouping; (5) self-directed learning; and (6) planning and using peer tutoring. Each chapter presents background information, basic concepts and principles, sample schedules, classroom layouts, instructional strategies, and further resources for multigrade teaching. Each chapter contains a list of pertinent references, which together amount to approximately 100 entries. (TES)

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THE MULTIGRADE CLASSROOM:
A RESOURCE HANDBOOK FOR SMALL, RURAL SCHOOLS

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The history of multigrade classroom instruction is presented along with the background information which describes why multigrade instruction is an important and complex issue for educators.

Chapter 1 1

Review of the Research on Multigrade Instruction

In this chapter, the research on multigrade instruction is reviewed in order to answer two questions: 1) What effect does multigrade instruction have on student performance?; and 2) What kind of training is needed in order to teach in a multigrade classroom? Detailed information focusing on organizing and teaching in a multigrade classroom is also presented.

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This chapter emphasizes that instructional quality and student grouping are key components for success in the multigrade classroom. Instructional methods such as recitation, discussion and cooperative learning are reviewed. Planning guides and examples have been included where appropriate. Strategies for organizing group learning activities across and within grade levels, especially those that develop interdependence and cooperation among students, are discussed.

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This chapter provides guidelines for developing skills and routines whereby students serve as "teachers" to other students within and across differing grade levels. The research on what makes for effective tutoring in the classroom is reviewed.

Preface

The development of this handbook began in 1987, when a group of people involved in rural education raised several issues regarding multigrade classroom instruction.

In their discussions, members of the advisory committee for the Northwest Regional Educational Laboratory's (NWREL) Rural Education Program agreed that multigrade teacher training in their respective states was either lacking or wholly inadequate. They also were concerned about the availability of research and training materials to help rural, multigrade teachers improve their skills.

As a result of these concerns, the Rural Education Program decided to develop a handbook to assist the multigrade teacher. The handbook evolved in several stages. The first was a comprehensive review of the research on multigrade instruction that included articles, books, and research reports from the United States, Canada, Australia and other countries.

From this review, six topic areas emerged that are considered essential for effective multigrade instruction: classroom organization, classroom management and discipline, instructional organization and curriculum, instructional delivery and grouping, self-directed learning, and planning and using peer tutoring. The handbook was developed around these six instructional areas, and a draft was completed in June of 1989.

The second stage occurred in July of 1989, when a conference was held in Ashland, Oregon with multigrade teachers who were recommended by educational leaders from throughout the Northwest and the Pacific Island regions.

During the conference, participants were organized into workgroups, each focusing on one of the topic areas. Their tasks were to review the appropriate handbook chapter for clarity and content, suggest alternative and/or additional

instructional strategies to those presented in the handbook, and to write case descriptions of activities drawn from their classrooms. For example, Joel Anderson from Onion Creek,Washington, described how he grouped students for cooperative learning. Darci Shane from Vida, Montana, presented a school handbook she had developed for parents that included a class schedule and other school related information. (A full list of participants appears at the end of this preface).

Based upon feedback, strategies, and the ideas of conference participants, the handbook was revised and a final version completed in September 1989.

Purpose and Scope of the Handbook

The handbook has been written to serve three general purposes:

1. Provide an overview of current research on multigrade instruction.
2. Identify key issues teachers face when teaching in a multigrade setting.
3. Provide a set of resource guides to assist novice and experienced multigrade teachers in improving the quality of instruction.

However, because of the complexity of multigrade instruction and the vast amount of research on effective classroom instruction, this handbook can only serve as a starting point for those educators desiring to learn new skills or refine those already possessed.

Each chapter of the handbook presents information, strategies and resources considered important for the multigrade teacher. While all the chapters are related, they also can stand alone as separate documents. For example, the chapters on Classroom Organization and Classroom Management and Discipline contain overlapping information. Ideally, these two chapters are best utilized together. The same is true of the chapters on Instructional Organization and Curriculum and Instructional Delivery and Grouping. Wherever possible, these relationships have been noted in the appropriate chapters.

In addition, two topics mentioned by multigrade teachers received only brief attention because of time and space: using instructional assistants and community resources. Leslie Gordon, a multigrade teacher from Alaska, suggested that issues relating to the use of instructional assistants should be included. In Gordon's rural classroom she had three instructional assistants, but no training in how to best utilize their help.

Several other teachers described strategies for using the community to facilitate instruction. Some of these anecdotal reports have been included in the handbook. However, no specific chapter has been developed around the use of community resources. Consideration will be given to inclusion of these two areas in revisions of this handbook.

In conclusion, the handbook has been designed to be used as a research-based resource guide for the multigrade teacher. It covers the most important issues the multigrade teacher must address to be effective in meeting the needs of students. Sample schedules, classroom layouts, resource lists and strategies aimed at improving instruction have been used throughout. Hopefully, the handbook will raise questions, provide answers and direct the multigrade teacher to resources where answers to questions can be found.

I'd also like to take this opportunity to thank the many people who helped make this handbook possible. I would like to thank Steve Nelson, director of the Rural Education Program for his support and ideas during the early stages of this project. I would also like to thank Andy Sommer for his writing on self-direction and his ongoing editorial assistance. And a special thanks to Tony Kneidek for his detailed editorial and layout work, Teri Shetters for continual editorial support, and Sherryl Rosales for helping keep it all organized.

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Introduction

Welcome to the world of the multigrade classroom, an institution that dates back to the earliest days of education in the United States. Yet little research exists to assist teachers who work with two, three, four and more "grades" of students at one time.

District schools of the 1800s, which have now become known as the one-room school, consisted of many students of different ages and abilities. If you had asked a student from one of these schools what grade he or she was in, you would likely have received a bewildered look. These early schools were nongraded. Students of different ages learned and played together as a single class.

With the beginning of the industrial revolution and large scale urban growth, the ideal of mass public education took root and the practice of graded schools began in earnest.

The graded school system provided a means of organizing and classifying the increased number of urban students of the 1800s. Educators found it easier to manage students by organizing them into age divisions or grades. Other factors, such as the advent of the graded textbook, state supported education and the demand for trained teachers, further solidified graded school organization (Goodlad & Anderson, 1963).

The graded school system was driven by a need for managing large numbers of students rather than for meeting individual student needs. Critics of the graded school were quick to emphasize this deficiency. Rule (1983) cites Shearer (1899), an early critic of graded education, as pointing out that it is absurd to expect children to be at the same stage of development in a given grade. Shearer's observation is as valid today as it was in 1899. But the fact remains that the graded school has survived as the dominant organizational structure since its emergence

150 years ago. The graded school has simply become the norm, the predominant way teachers and parents think about schools.

Yet the multigrade classroom remains an important and necessary organizational pattern of education in the United States. In 1918, there were 196,037 one-room schools, representing 70.8 percent of all public schools in the United States. By 1980, less than 1,000 of these schools remained (Muse, Smith & Barker, 1987). The number of multigrade classrooms consisting of two grades or more is considerably higher. For example, in a study of multigrade classrooms of only two grades, Rule (1983) used a sample from a suburban district outside of Phoenix, Arizona. Of the 21,000 elementary students in the district, approximately 17 percent were in combined classrooms. Many school districts combine classrooms as a cost-cutting measure. Thus, the multigrade classroom still holds a significant place in schools, especially in small, isolated rural districts.

The multigrade classroom has also had a significant place in mainstream urban and suburban districts. In the 1960s and 1970s, the ungraded school, open education, and individualized instruction became driving forces in school organization. Energized by developmental theories of learning, a large influx in federal money and student-centered models of instruction, the multigrade classroom became a major educational innovation.

This resulted in numerous studies conducted to assess the effectiveness of multigrade classroom instruction. Interestingly, when educators described these changes in school organization, they often used the image of the one-room school with its multiage "family" groups, student-centered learning and cooperative atmosphere. For the most part, efforts to recapture the ideal of the one-room school were unsuccessful. Only a small proportion of the multigraded "experiments" of the 1960s and 1970s remain.

We have learned a great deal from these innovative efforts. Working in an open, multigrade school requires serious, ongoing teacher training and a commitment to hard work. Most teachers receive training for teaching single grade classrooms organized around whole-class and/or small ability-grouped instruction. When placed in an open, multigrade setting, teachers discover that the time requirements and skills needed to be effective are simply not part of their experience.

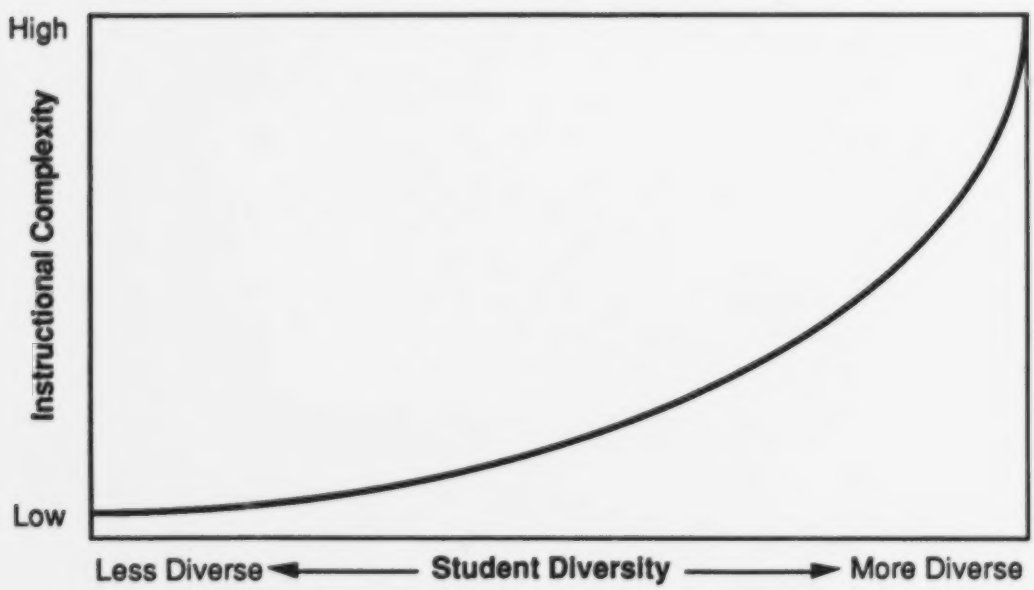
In addition, a long tradition of graded schools has created powerful expectations for administrators, teachers and parents regarding how schools *should* be organized. Graded instructional organization is a norm expected of schools which creates a handicap for anyone (whether out of necessity or by theoretical design) seeking to operate a multigrade school. Although the large scale innovations of the '60s and '70s have virtually ended, the multigrade classroom remains a powerful reality for many small, rural school districts in the United States, as well as for many schools in non-industrialized countries.

In multigrade classrooms, widely varying ages, abilities, interests, backgrounds and experiences are drawn together. This range means special challenges in preparing and carrying out programs which require greater time and effort on the part of the teacher. Figure 1 provides a way of visualizing the relationship between student diversity and instructional complexity. As one moves from a classroom environment characterized by a low level of student diversity on the left side of Figure 1 to an environment characterized by a high level of student diversity on the right, one moves toward higher levels of instructional complexity.

Concurrently, one moves toward greater demands on teacher time, organization and planning (Bandy & Gleadow, 1980). This is true whether one teaches in a single-grade classroom or a multigrade one. However, unlike a single-grade classroom where it may be possible to have a rather homogeneous

match of student ability, multigrade teachers nearly always face high levels of student diversity. Simply put, teaching in a multigrade classroom is more demanding (but one would hope more rewarding) than working with only one grade level. Ironically, little or no emphasis is placed on multigrade instruction in most teacher education programs (Miller, 1988; Horn, 1983; Jones, 1987; Bandy & Gleadow, 1980).

FIGURE 1. CLASSROOM INSTRUCTIONAL COMPLEXITY CONTINUUM



Despite the constraints, there are special advantages to multigrade classrooms. Flexible schedules can be implemented and unique programs developed to meet students' individual and/or group interests and needs. Combined classrooms also offer ample opportunity for students to become resourceful and independent learners.

The multigrade rural classroom is usually less formal than the single-grade urban or suburban classroom. Because of the small class size, friendly

relationships based on understanding and respect develop naturally between the students and the teacher. In this setting, students become well known by their teacher and a family atmosphere often develops.

However, many teachers, administrators and parents continue to wonder whether multigrade organization has negative effects on student performance.

For most rural educators, multigrade instruction is not an experiment or a new educational trend, but a forceful reality based on economic and geographic necessity. In a society where educational environments are dominated by graded organization, the decision to combine grades is often quite difficult. The Rural Education Program of the Northwest Regional Educational Laboratory receives numerous requests from rural educators with two overriding concerns regarding multigrade classrooms:

- What effect does multigrade instruction have on student performance?
- What kind of teacher preparation or training is needed to be an effective teacher in a multigrade classroom?

This paper will provide answers to these questions and develop an overview of key issues facing school districts and teachers involved in or contemplating multigrade classrooms.

"The first thing that comes to mind is training. They gave me these binders and said, 'These are objectives and what not, TEACH IT.' I was very confused ... Everyone said it was easy to do – no training necessary. I don't agree with sending in a first year teacher to teach combined classes without training. I don't think it does justice to the students. I struggled my first year and I really feel the students suffered ... I have been teaching for three years now and I think the multigrade classroom has advantages for students. If you don't separate them into grades, they learn to accept each other. I think the whole self-concept improves. I really feel I've come to an agreement where we are partners in a family unit. I don't think I could get that out of a single-grade classroom."

– Cheryl Mikolajcvyk
multigrade teacher

Chapter 1

Review of the Research on Multigrade Instruction

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REVIEW OF THE LITERATURE ON MULTIGRADE INSTRUCTION

Research studies focusing on multigrade instruction, especially in rural settings, are quite rare. Through contacts with rural educators both in the United States and abroad, and through computer searches of ERIC, Psychological Abstracts and the Social Science Citation Index, a body of research literature was collected.

This was then organized into quantitative and qualitative sources for the purposes of analysis. Quantitative studies refer to research which aims to determine whether there are statistically significant differences between elements or variables in a school or classroom. The focus in quantitative study is on numbers--math and reading scores, national percentile ranks, percent of agreement, and so on. Qualitative research, on the other hand, focuses on the context of schools and classrooms. The aim is to describe how people feel and act in a particular environment. Qualitative studies often provide a description or picture of a setting.

The quantitative studies reviewed provide evidence as to the effect multigrade instruction has on student and teacher performance while the qualitative literature provides detailed information regarding practices and strategies for being successful in a multigrade classroom. Taken together, quantitative and qualitative research provides a rich picture of school life.

Quantitative Studies: Student Achievement

Table 1 provides an overview of 13 quantitative studies that were designed to ascertain the differences in student achievement between students enrolled in single and multigrade classrooms. Nearly half of these studies were conducted during the early '60s and '70s when there was a large interest in team teaching,

TABLE 1. RESEARCH ON MULTIGRADE CLASSROOM INSTRUCTION: STUDENT ACHIEVEMENT

		Comparison Groups: Multigrade			Single Grade				
Study	Unit of Measurement	N	Level	(organization)	N	Level(s)	Measure	Subjects	Results
Knight (1938)	Classroom (No. of students not specified)	7 7	4th 4th	(3-4 combined) (4-5 combined)	6 6	4th 4th	Achiev. test Achiev. test	Reading, Math, Language, Spelling	T T
Drier (1949)	Students	923	6th	(1-6 mixed)	599	6th	Achiev. test	Reading, Math, Language, Spelling	N
Adams (1953)	Students	150	5th	(4-5 combined)	150	5th	Achiev. test	Reading, Math, Language	N
Chace (1961)	Classroom (No. of students not specified)	3	3-6	(mixed)	57	3-6	Achiev. test	Reading, Math, Language	T
Yerry (1964)	Students	500	1-6	(1-2) (3-4) (5-6)	500	1-6	Achiev. test	Reading, Math, Language	M+
Way (1969)	Students	135	1-5	(combined)	671	1-5	Achiev. test	Reading, Math, Language	N
Harvey (1974)	Students	31	K	(K-1 combined)	152	K	Achiev. test	Readiness, Achievement	N
MacDonald and Wurster (1974)	Students	Not specified	2nd	(1-3 mixed)	Not specified	2nd	GATES Reading test	Reading	N
Adair (1978)	Students	500*	1st	(K-1 combined)	500*	1st	Achiev. test	Reading, Math, Listening, Word Analysis	N
Milburn (1981)	Students	125	1-6	(4 classes w/3 year span per class)	125	Not specified	Achiev. test	Reading, Math	M+
Lincoln (1981)	Students	402	2nd	(combined)	402	2nd	Achiev. test Aptitude	Reading	N
Rule (1983)	Students	3,360*		(2-3)	3,360*	2-6	Achiev. test	Reading, Math	M+
Pratt & Treacy (1986)	Classroom	13 2	1-2 2-3	(combined) (combined)	13 10	1st 2nd	Observation & document analysis	Student Learning	N

+ = Statistically significant T = Trend favoring multigrade, but not significant M = Mixed results N = No difference * N includes total sample

individualized instruction and multigrade instructional grouping. These studies are unique in that the programs were driven by a theoretical design rather than economic necessity. In many cases this would suggest a difference in attitude and belief by those working in these settings. The remainder of the studies focus primarily on combined classroom situations. Research literature on the rural one or two-room school is quite limited, primarily consisting of descriptive, survey and self-report/opinion types of information.

The studies summarized in Table 1 indicate that there is little or no difference in student achievement in the single or multigrade classroom. Two studies (Knight, 1938; Chace, 1961) found that multigrade students performed consistently higher in mathematics, reading and language than did single-grade students. However, the differences were not statistically significant. In eight studies (Drier, 1949; Adams, 1953; Way, 1969; Harvey, 1974; Adair, 1978; MacDonald & Wurster, 1974; Lincoln, 1981; Pratt & Treacy, 1986) researchers found no difference between student performance in the multigrade or single-grade classroom. Only in the studies that reported mixed results do we find significant differences.

Yerry (1964) investigated the differences between students combined in grades 1-2, 3-4 and 5-6 with students from single-grade classes. Differences between levels within the multiage group were also compared. At grades 2, 3 and 6, there were no significant differences from single-grade students. But at grades 1 and 5, significant differences favoring multigrade classes were found for some subjects (arithmetic, language, and total achievement for both grade 1 and grade 5). Milburn (1981) found significant differences for vocabulary that favored the multigrade students, but when analyzed by age, it was found that lower-level multigrade students performed better than their single-grade counterparts. At the upper levels there was little or no difference.

Rule (1983) compared student achievement for 3,360 students in grades 3, 4, 5 and 6 across three settings:

- students who came from multigrade classrooms of two grades (for example, fourth and fifth or third and fourth)
- single-grade classrooms in schools with multigrade classrooms
- single-grade classrooms in schools with only single-grade classes

In addition, students were grouped and compared according to high, medium to high and average achievement. Only reading and mathematics performance were analyzed.

Results were mixed. For reading, only one analysis produced significant differences between single and multigrade classrooms: High performing fourth grade students from multigrade classrooms had significantly better scores than high performing students from single fourth grade classrooms.

In general, multigrade students scored higher in reading on standardized achievement tests than did single-grade students. However, for math achievement, the results are nearly reversed.

High-achieving third graders in single-grade classes scored significantly higher than their multigrade counterparts. Of the 12 analyses conducted, four favored multigrade classes and eight favored single-grade classes. Rule (1983) concludes her study with several implications for the practitioner contemplating combined classrooms:

1. Multigrade classes do not appear to affect reading achievement negatively; rather, they may actually enhance it for average to high-achieving students.
2. Student mathematics achievement might be negatively affected by placement in a multigrade classroom, especially for grade 3.
3. If one is contemplating combining classes, the average/high-achieving students appeared to be the best configuration for all grades in reading and for grades 4, 5, and 6 for math.

Rule's (1983) research does not yield information regarding low-achieving students or mixed-ability group students since nearly all students placed in the multigrade classrooms were selected because of their high achievement. In other words, when school officials combined classes, they tended to select the higher achieving students for placement as a means of reducing the achievement disparity in the multigrade classroom. It was believed this would simplify the work demands on the teacher. In addition, Rule did not include first or second grades as part of her sample.

The most comprehensive study of multigrade classrooms reviewed was conducted by Pratt and Treacy (1986) in Australia. Their study sought to identify differences between single and multigrade primary classrooms in rural and urban settings. Teacher interviews, structured classroom observations, analysis of student work and a student attitude measure were used for data collection. Unlike the research previously reviewed, Pratt and Treacy placed a heavy emphasis on the classroom context, thus providing an excellent picture of student and teacher behavior across a range of single and multigrade classrooms at the primary level.

Pratt and Treacy (1986) found that there was no indication that academic progress or social development were affected by how students were grouped (i.e., multigrade vs. single grade). Their review of student academic work indicates students from both types of classrooms were progressing at nearly the same rate. Interestingly, larger differences were found within classroom types than between them. In other words, when they observed how individual classrooms were organized, regardless of whether they were single or multigrade, they observed a great deal of variation in student at-task behavior. More research of this type is sorely needed to provide practitioners with detailed information on what actually occurs in the classroom.

Quantitative Studies: Student Attitudes

Where the multigrade classroom has the greatest impact on student performance is in the affective domain (Pratt, 1986; Ford, 1977). Results generally favor the multigrade classroom when measures of student attitude toward self, school or peers are compared across a range of schools and geographic areas.

Table 2 provides an overview of key studies on multigrade instruction, with only the affective measures displayed. Of the nine studies reviewed there were approximately 23 separate measures of student attitude. Sixty-five percent of the measures favored the multigrade classroom at a significant level, 13 percent indicated a trend toward multigrade students out-performing their single-grade counterparts, and 22 percent revealed no differences between classroom types. Only one measure favored the single-grade classroom.

How do multigrade students feel about school and themselves, and do they feel different about their fellow students than do single-grade students? Five different measures of attitude toward school were used. Four of the five studies (Schroeder & Nott, 1974; Schrankler, 1976; Milburn, 1981; Junell, 1970; Pratt & Treacy, 1986) favored the multigrade students (three at the significant level) and one indicated no difference. Clearly, multigrade students have more positive attitudes toward school.

When measures of attitude toward self were administered, the results were nearly the same. Schrankler found multigrade students to have significantly higher self-concept scores than students in single grades. Milburn and Junell, using different measures of self-concept, found that multigrade students out-performed single-grade students, but not at a statistically significant level.

TABLE 2. RESEARCH ON MULTIGRADE CLASSROOM INSTRUCTION: STUDENT ATTITUDE

Study	Unit of Measurement	Comparison Groups: Multigrade N	Multigrade Level	Multigrade (Organization)	Single Grade N	Single Grade Level(s)	Measure	Topics	Results
Chace (1961)	Classroom (No. of students not specified	3	3-6	(mixed)	57	3-6	-California Test of Personality	Personality & Social Development	+
Yerry & Henderson (1964)	Students	600	1-6	(1-3, 4-6)	600	1-6	-Ohio Social Accept. Scale	Friendship	N
							-Test Anxiety Scale	School Anxiety	N
Mycock (1966)	Students	150-180		(K-3)	150-180	K-3	-Test Anxiety Scale	School Anxiety & Social Adjustment	N
							-Sentence Completion	Teacher-Child Relations	+
							-Drawing Test		
							-Student Observation	Range of Social Interaction	+
							-Aspiration	Levels of Aspiration	+
Junell (1970)	Students	54	(Not specified)		96	(Not specified)	-Bill's Index of Adjustment & Values	Self Concept Self Acceptance Ideal Self	T
							-Borg's USU School Inventory	Attitude Toward School	+
	N Freedom from Withdrawal						-California Test of	Belonging Personality Freedom from Antisocial Tendencies	
Schroeder & Nott (1974)	Students	140	1-5	(Not specified)	140	(1-5)	-Bonnie Myer's Attitude Toward School	Attitude Toward School	+
Papay, Costello, Hedl, Spielberger (1975)	Students	133	1-2	(Mixed)	133	(1-2)	-State-Trait Anxiety Inventory	Trait Anxiety State Anxiety	+ +

+ = Statistically significant T = Trend favoring multigrade, but not significant M = Mixed results N = No difference * N includes total sample

TABLE 2. Continued

Study	Unit of Measurement	Comparison Groups: Multigrade N	Multigrade Level	Multigrade (Organization)	Single Grade N	Single Grade Level(s)	Measure	Topics	Results
Schrankler (1976)	Students	990	K-6	(Mixed & K-1, 2-3, 4-6)	Not specified		-I0X-Measures of Self Concept & Attitude Toward School	Self Concept	+
								Attitude Toward School	+
							-Parent Approval Index	Perception of Parent Approval	+
							How About You? What Would You Do?	Perception of School Success	+
								Expectations of Success	-
							-School Sentiment	Dimensions of School	+
Milburn (1981)	Students	125		(4 classes w/3 year span)	125	(K-6)	-Piers-Harris Self-Concept Scale	Self Concept	T
							-NFER Attitude Survey	School Attitudes	T
Sherman (1984)	Students	87	3-5	(Mixed)	87	3-5	-Sociogram	Social Distance	+
Pratt & Treacy (1986)	Classroom	13	1-2	(Combined)	13	1st	-How You Feel About School Inventory	Attitude Toward School	N
		2	2-3	(Combined)	10	2nd			

+ = Statistically significant T = Trend favoring multigrade, but not significant M = Mixed results N = No difference * N includes total sample

When assessing student social relationships and sense of belonging, the overall trend favors the multigrade students. Sherman (1984) discovered that multigrade students felt closer to their multiage classmates than did single-grade students. Chace (1961) and Mycock (1966) found that multigrade students had significantly better teacher-child relationships and better social development than single-grade students. Yerry and Henderson (1964) and Junell (1970) found no differences between single and multigrade students in terms of friendships and belonging.

In terms of anxiety toward school, multigrade students fared slightly better than single-grade students. Papay, Costello, and Spielberger (1975) used the State-Trait Anxiety Inventory to measure student anxiety levels. Multigrade students had significantly less anxiety than single-grade students. However, in studies conducted by Yerry and Henderson (1964) and Mycock (1966), no differences were found.

The most significant differences between single and multigrade classrooms were found in measures of self-concept and related measures of self-perception. Most studies favored the multigrade setting. Three studies indicate that multigrade students have better self-concepts than single-grade students (Junell, 1970; Schrankler, 1976; Milburn, 1981).

One interesting finding emerged from the Schrankler study. When 10-year-olds were asked about their expectations for success, the results indicated that single-grade students had significantly higher expectations than multigrade students. However, when 11-year-olds were asked to describe their perceptions of how successful they were in school, the results favored the multigrade classroom. These seemingly contradictory results provide an excellent illustration of the problems researchers face in assessing student attitudes.

Variation in grades, time of year, quality of instruction and socio-economic status, to mention only a few key variables, mediate student perceptions. Educational researchers studying student attitudes often have difficulty setting up studies where these variables can be adequately controlled. One compensating strategy is the aggregation of studies across setting and time. Practitioners can have greater confidence when many studies indicate similar results.

Viewed as a whole, the ten studies presented (Table 2) clearly indicate that students in multigrade classrooms tend to have significantly more positive attitudes towards themselves and school. A trend toward more positive social relationships was also indicated.

Summary

Twenty-one quantitative studies comparing the effects of multigrade with single-grade classroom organization were reviewed. Table 1 provided an overview of 13 experimental studies assessing student academic performance, while Table 2 presented 10 studies that focused on student attitudes. Clearly, these studies indicate that being a student in a multigrade classroom does not negatively affect academic performance nor student social relationships and attitudes. In terms of academic achievement, the data clearly support the multigrade classroom as a viable and equally effective organizational alternative to single-grade instruction. When it comes to student affect, the case for multigrade organization appears much stronger, with multigrade students out-performing single-grade students in over 75 percent of the measures used. One wonders, then, why we do not have more schools organized into multigrade classrooms.

One response to this question is that "We have nearly always organized classrooms by grade levels--that history and tradition dictate graded classrooms." This response seems a bit ironic, given the early dominance of the multigrade

school in American education. However, there is a related but more compelling answer that can be found in the classrooms themselves and in information drawn from classroom practitioners.

The majority of quantitative studies reviewed focused on numerical student outcome data (i.e. test scores). Detailed contextual information describing what actually occurs in the classroom was not collected in these studies. We do not learn how teachers plan, prepare and teach with multiple grades. As a result, we do not know how teachers feel and respond to being assigned to a combined classroom. How are students grouped? Are classroom management and organization different? Are there different strategies for teaching specific subjects? These are just a few of the important questions that must be understood in light of the multigrade environment in order to understand why multigrade classrooms are not more prominent. Answers to these questions will also provide insight into the requirements and training needs of the multigrade teacher.

The next section of this paper will address these questions through a review of qualitative studies which allow us to see the multigrade classroom from the practitioner's point of view.

Qualitative Studies: A View From the Inside

The literature review that follows has been divided into three sections. The first provides an overview of the problems and needs of rural school teachers in multigrade classrooms. Primarily based on surveys and interviews, this literature describes how teachers and administrators view the job demands of the multigrade classroom. The second section will review studies and teacher reports of the two-grade combination classroom. The last section will focus on the multigrade classroom where three or more grades are combined and taught in a single classroom.

Establishing the Needs of the Multigrade Teacher

Imagine you have recently graduated from a university in a rural state. You would like to live and work in the small city where the university is located, but so would nearly every other graduate. You apply to the local school district, but are told that there is a long waiting list. Feeling anxious about a job for the fall, you also apply to many of the small rural schools around the state. It is in one of these schools where you eventually find a teaching job.

During your job interview with the local school board and superintendent, you are told you will teach the second grade. Moreover, when you report to work, your assignment has slightly changed and you find yourself responsible for a combination classroom of second and third graders. The principal apologizes for the change, but mentions that enrollment has dropped for the third grade, thus necessitating a combined class. You are also told that you will only have an additional eight students, bringing the enrollment to thirty-two. Some extra aide help is hinted at.

While attending the university, you learned that a combined classroom was a distinct possibility in a rural school. However, the majority of your classes focused on instructional strategies for single-grade classes. When you student taught, you also taught in a single-grade classroom. Fortunately, you did have several methods courses and practicum experiences in grouping students for reading and math. As you face the task of preparing for the opening day of school, you decide to use what you know about grouping. A roster of students is reviewed as well as the previous year's cumulative folders. Unfortunately, this information is not very helpful.

Based on what test results you could locate, you discover there is an achievement span of five grades in reading and four grades in math. You decide to

combine several levels in order to reduce the number of groups. Next, you begin planning for language arts, social studies and science. Should you teach separate groups by grade level for each subject? What happens if some second graders get third grade science and social studies? Will they have to repeat this content in third grade? And what about art, physical education and spelling? By this time, your anxiety has risen and you decide to take a break and ask another teacher for some help. Maybe ask the principal. You think to yourself, "Maybe I should just keep these concerns to myself. After all, I am a certified teacher trained to teach all K through 8 grades . . . what if the students are poorly behaved . . . don't like me . . . what if . . . "

This fictitious teacher's thoughts and feelings are not too dissimilar from what many teachers, new or experienced, might feel as they approach the realities of teaching a multigrade classroom. As anyone who has taught knows, the greater the student diversity in the classroom (multiple achievement levels, developmental differences, differences in socio-economic status, etc.) the more one needs to plan and organize if individual student needs are to be met.

Bandy (1980) conducted a study of the characteristics and needs of country school teachers in British Columbia, Canada. A random, stratified sample of 50 principals and 500 teachers was surveyed. This was followed by open-ended interviews with 32 teachers drawn from a representative sample of 15 small rural schools. Interview data were then cross checked with findings from the questionnaires.

Principal comments indicated that the most important factor to successful multigrade instruction was the teacher's ability to plan and organize. Most principals felt that the multigrade classroom was no problem to their teachers. Interestingly, over 90 percent of the teachers surveyed said they had multigrade classroom experience. This suggests a highly skilled cadre of capable multigrade

teachers. Many principals also mentioned that there were advantages to multigrade classes such as individualized instruction, tutorials by older students, and a greater opportunity for teachers to be innovative. However, principals said that the extra time needed in preparation and planning lessons was a definite disadvantage.

Teachers were asked to compare single and multigrade classrooms on a range of items. For example, they were asked to indicate whether it was "easier" or "more difficult" to motivate students in a multigrade classroom. Over half said it was more difficult. It was also believed that "assisting individual children" and "planning" were more difficult in the multigrade classroom. However, maintaining classroom control and student learning were seen to be about the same. The area believed to be the most difficult (84 percent) was "planning science and social studies without repetition." Clearly, teachers in this study believe it is more difficult to teach a multigrade classroom.

During interviews, teachers mentioned that special training for multigrade classrooms was critically important. The most frequently mentioned need was having a practicum in a rural school. This was followed by developing skills in curriculum development (unit planning), class organization, individualizing instruction and collecting resources and materials.

Table 3 provides an overview of the implications, by respondent group, for multigrade instruction drawn from the Bandy (1980) study. Many other studies conducted both in the United States and abroad produced similar findings.

Pietila (1978) describes the changes that have occurred in the combined classrooms of Finland. Combined classrooms of grades 1-6 in a one-teacher school are very rare. As late as 1950 there were more than a thousand of these schools. But the instructional problems were so great that the Ministry of Education eliminated nearly all of them.

Because the small, rural schools play such an important part in delivering community services in this primarily rural country, a decision was made to sustain and strengthen them with centrally established curriculum guidelines and

TABLE 3. IMPLICATIONS FOR TEACHING IN A MULTIGRADE CLASSROOM

Principals' Perceptions	Teachers' Perceptions
1. Teachers need methods for small group instruction.	1. Teachers must be well organized to teach.
2. Teachers must be trained to teach multigrade classrooms.	2. Teachers should be trained in cross-age tutoring.
3. Teachers must be prepared to use cross-age tutorial systems.	3. Social studies and science need special adaptations.
4. Experience must be developed in working with auxiliary personnel.	4. Teachers need awareness of individualized reading programs.

organizational standards. For example, the smallest school would have one teacher for grades 1-6, the next size school would have two teachers, where grades 1-3 would be taught by one teacher and grades 4-6 taught by the second teacher. The next size school would employ three teachers, with every two grades combined (1-2, 3-4, and 5-6). Curriculum was standardized by grade level. This posed a major problem for teachers of combined grades. If you teach a combined grade of third and fourth graders, what grade level do you teach--the third or fourth level curriculum, or both? Students transferring from one school to the next might find themselves studying the same material they had the previous year. To avert potential problems, different types of grouping strategies were piloted by the Ministry of Education. The most successful practices centered on flexible grouping

that was based on student and situational needs. For example, students were grouped by skill needs across grades rather than by age/grade groups.

Teachers in Finland who teach in combined or multigrade classrooms believe there are many advantages to multigrade instruction: "The small size of combined grades compensates many instructional difficulties. Agewise heterogeneous groups are natural bodies where the members educate each other. The older pupils in a combined grade may function as instructors to younger ones" (Pietila, 1978, p. 15). However, materials preparation for use with flexible grouping makes a great demand on teacher time because materials must be explicit, readable, unambiguous and coherent. Materials must "include the elements . . . [which] lead to critical thinking and develop an evaluative approach in the pupil. Primary emphasis should be placed on the development of an internal evaluation system in the materials" (p. 21). With so many different levels of students to teach, the teacher must rely heavily on student self-direction and materials that lend themselves to independent study.

The complexity of multigrade instruction is even more pronounced in developing nations. In 1980, UNESCO held a conference with representatives from India, Korea, Maldives, Nepal, Thailand, Philippines, Sri Lanka and Indonesia. The conference focused on innovative approaches to teaching disadvantaged groups and teaching in the multigrade classroom. The problems and learning difficulties created by multigrade instruction were nearly similar for each country. Differences primarily related to financial, geographic and demographic variables.

Multigrade classes in these countries tend to have large numbers of students and few teachers. The most common pattern of organization is the two-grade combination class. However, three or more grades per classroom were common to all countries. Of the eight countries represented, none indicated they

had single "grade" schools with more than four grades. For example, an individual teacher may have a classroom of 30 fourth graders and 27 fifth graders or a classroom of 35 students in grades 3 through 6. Teachers in these situations face a formidable teaching situation.

During the conference, five general problem areas emerged:

1. Inadequately trained teachers
2. Scarcity of varied levels and types of materials
3. Lack of flexible and special types of curriculum organization for multigrade classes
4. Inadequate school facilities
5. Lack of incentives for teachers of multiple classes (UNESCO, 1981)

Similar to preservice training in the United States, all countries participating in the conference reported that the teacher preparation for working in multigrade classrooms was identical to that provided for teachers of single-grade classrooms. In other words, individuals going into teaching were not prepared for teaching multigrade classrooms.

Ironically, the concerns and depiction of problems in these developing countries echo many of the concerns voiced in the United States and Canada by multigrade classroom teachers and rural educators. The most prominent similarity is the need for curriculum and program modification that reflect the culture of the local community and the needs of students within the demands created by multigrade organization. In this regard, two recommendations emerged from the conference.

First, curriculum needs to be restructured so that it is community based: "The environment in which the community lives, the history and culture, the utilization of skilled persons in the community for improving the quality of education should be emphasized" (UNESCO, 1981, p. 80; Wigginton, 1985).

Secondly, innovative programs have a difficult time because the existing educational system is traditional and this constrains perceptions of what may be possible: "The four walls of the classroom and the long periods demanded by programs in different countries somewhat inhibit and restrict the child's activities. Outdoor activities should be encouraged and experiences outside the classroom should be given a place in the curriculum" (UNESCO, 1981, p. 86).

Multigrade classroom instruction places greater demands on teachers than teaching in a single grade. To be effective, teachers need to spend more time in planning and preparation. This often means modifying existing grade level materials to ensure students will be successful. In addition, there are many demands (Table 4) that are simply conditions of rural life. Although rural living can have many rewards, these demands, as described in Table 4, impact the rural teacher. When considered along with the requirements of the multigrade classroom, it is clear that the rural, multigrade classroom teacher has a demanding, but potentially very rewarding job.

Instruction in Two-Grade Combined Classrooms

The most common multigrade configuration is found in combined classrooms of only two grades. The decision to combine classes is often a difficult one because both parents and teachers have come to expect single-grade instruction as the norm. In addition, the extra work and time required and the unfamiliar nature of the combination classroom produces apprehension in most teachers and parents. However, budgetary constraints often necessitate overlooking these concerns and combining grades. It is worth noting that when multigrade instruction is the organizational norm of the school, teacher attitudes tend to be more accepting (Pratt & Treacy, 1986; UNESCO, 1981).

TABLE 4. EDUCATIONAL ISSUES UNIQUE TO RURAL, SMALL SCHOOLS

Classroom Factors

- Classes are often made up of more than one grade level
- The student-teacher ratio is often smaller
- Teachers typically have three to five different preparations daily
- Teachers often teach classes for areas in which they are not prepared
- Equipment, instructional materials and supplies are limited or dated
- Resources for student use (media and library related) are limited
- Lack of support exists for teachers in dealing with special needs children

School Factors

- Teachers are often responsible for extensive administrative, supervisory, extra-curricular and maintenance responsibilities
- Junior and senior high schools are often combined
- Budgets are often poor (supplies and materials outdated)
- Teachers are more isolated from ongoing staff development opportunities
- Little or no inservice support is provided
- Limited professional development information exists nearby
- There are fewer defined rules and policies (a more informal administrative style)
- Salaries are often lower

TABLE 4. Continued

Socio-Cultural Factors

- Adequate housing may not be available
- Buying and selling property is more difficult
- Private lives are more open to scrutiny
- Cultural and geographical isolation and/or cultural/linguistic isolation is more prevalent
- Services such as medical and shopping may be quite distant
- Parents have high expectations for teacher involvement in community activities
- Greater emphasis is placed on informal and personal communications
- Loneliness
- Adjustment to extreme weather conditions (Miller, 1988, p. 3)

Qualitative research on combined classrooms is rare. Only one empirical study incorporating qualitative methods could be located and this was conducted in Australia in 1986 by Pratt and Treacy. Through interviews and direct observation, they sought to describe the effect combined classrooms had on first and second grade students as compared to students in single first and second grade classrooms. Combined classrooms in small rural and metropolitan areas were also compared.

Staff Interviews

Interviews involved a series of open-ended questions covering a range of topics regarding staff attitudes toward mixed classes. Thirty-five teachers and principals were interviewed (18 metropolitan and 17 rural). Teachers'

and principals' attitudes toward combined classes were nearly unanimous. Four areas of agreement were identified:

1. Combined classes have inherent problems, but are a necessity in special circumstances.
2. First grade students should not be in combined class settings.
3. Larger single-grade classes (around 31 students) are better to have than a combination class.
4. Combined classes should be an option in all schools.

In general, everyone interviewed felt combining classes was not a desirable teaching situation. As one might expect, rural teachers and administrators were more accepting of the situation than their metropolitan counterparts. Rural respondents also indicated that parents did not voice concerns about their children being placed in a combined class whereas 50 percent of the metropolitan parents did.

Why did teachers and principals believe that combination classes were not as desirable as single-grade classrooms? Several answers can be drawn from the interview data. First, all schools in the study were organized by grade level. A combined classroom contradicts this organizational scheme and places an extra burden on the multigrade teacher. In nearly all combined classrooms, principals conveyed to teachers that each grade needed to be planned for and taught separately.

This included requests that lesson plans reflecting instruction for each grade be turned in. When this expectation is thought of in the context of each subject area, the amount of preparation seems quite overwhelming. Further, the expanded variability of student characteristics increases nearly every teaching task: scheduling, classroom management, materials preparation, providing individual help, etc. Instead of seeking similarities among students, teachers were expected

to emphasize their differences by grade level. Last, and most importantly, none of the teachers felt they had been adequately trained for teaching multigrade classes.

In order to minimize the disadvantages of multigrade instruction, a set of student selection criteria was used by each school. As one might expect, the criteria were nearly the same for all schools:

- ability to work independently
- closely matched ability levels
- maturity
- emotional stability
- average or above average ability

In practice, teachers and principals worked to reduce the ability differences in the classroom while selecting students who would meet teacher expectations for positive behavior and work skills. The concerns voiced about putting first grade students in a combined grade related to a belief that first graders were "not capable of independent learning, require more teacher time and are not able to cope with formal learning" (Pratt & Treacy, 1986).

Students were seen as receiving the greatest benefit. They learned how to work independently. Older students served as models for the younger ones. This was believed to increase the self-esteem of older students. In addition, older students who needed remedial instruction could be placed with students of their own ability with less stigma than in a single-grade classroom. Only three disadvantages for students were mentioned: not enough individual teacher time, older students may be treated like younger ones, and isolation from students at the same grade level in the rest of the school.

Direct Observation

Fourteen classrooms representing a cross section of combination grades drawn from rural and metropolitan schools were selected for detailed observation. Both open and structured observations were conducted over a number of visits at varying times.

Results of the observations provide a clear picture of teacher organization and management and their effect on student learning. In all schools except one, teachers took deliberate measures to ensure students knew what grade they were in: "All teachers very clearly and deliberately labelled the student by year levels when addressing them, using such phrases as 'O.K. year ones, listen to me - year twos keep working on the sheet I gave you' " (Pratt & Treacy, 1986, p. 36). Even room arrangement was designed to separate the students by grades. This enforced separation was stronger in the metropolitan schools and, generally, reflected a concern that the second graders not feel they had been placed back a year.

One exception to this strong pattern of grade level identification revealed a nearly opposite emphasis. In this class, the teacher encouraged a cohesive familial atmosphere. Students did not have their own desks or graded work areas and they could not be distinguished by grade level. Students were also encouraged to work at their own level rather than at their grade level. The teacher engaged in many large group work activities that involved both grades.

Across all schools, the most dominant form of grouping was by grade. In single-grade classes teachers engaged in whole-class instruction 83 percent of the time. In the combined classrooms, about 37 percent of the time was spent in whole-class instruction and about 44 percent in grade level groups. Several other forms of grouping were observed and they usually involved students grouped by

ability (usually reading) or by sex. Seldom, in any of the classes observed, were group formats used that encouraged student to student interaction.

When the researchers examined the tasks required of students, they found that most teachers planned closed tasks (convergent or one right answer tasks) aimed at the middle ability student. In other words, teachers tended to use activities that had yes or no type answers, such as 5 + 5 = 10 or single-fact convergent questions. Given the range of student abilities likely to be found in the combined classrooms, this is quite inappropriate for meeting the needs of individual students and was viewed by the researchers as problematic.

Classroom management skills were observed to play a greater role in the combined grade classrooms because teachers had more groups to organize. Moreover, it was observed that more students were seen to be only partially on task where the classroom was organized around whole-class instruction. Evidently the small group organization pattern leads to higher student engagement rates. But small group instruction requires greater teacher management skills and higher levels of student self-direction. Only one teacher demonstrated strategies and skills for working effectively with groups across grades. The remainder of teachers simply organized their classroom by separate grades. This easily translates into more work and time. In addition, most teachers expected to have their combined class for only one year and then they would return to a single grade.

Numerous recommendations were generated from the Pratt and Treacy (1986) study that are consistent with the findings of the research reviewed previously. The following recommendations were submitted to the Western Australian Department of Education:

1. Expectations regarding the amount of preparation and curriculum planning needs to be clarified for teachers. It would be beneficial if teachers were encouraged to plan for joint grade instruction and that

they should not be required to write out two separate lessons plans, one for each grade.

2. Increase the general preparation time to reduce pressure.
3. Teachers should be encouraged and trained to use other formats for grouping and teaching students, especially ones that enhance cooperative learning in students.
4. Provide ongoing support in terms of aide time and the preparation of materials.
5. Take steps to ensure students do not repeat curriculum in subsequent years.
6. Do not continue to insist that the two grades remain separate.
7. Spend more time in the development of teacher management skills, skills in developing of open task activities and strategies for scheduling curriculum.

A description of how one teacher learned to teach in a combined classroom will help to illustrate how many of these recommendations would impact on the classroom teacher and student.

Jane Freeman (1984) is an elementary teacher in the northwest part of the United States. Because of a budgetary problems associated with a declining enrollment in her school, she was told that she would be teaching a class of third and fourth graders. At first she was quite apprehensive. These feelings gave way, in time, to a strong belief that her combined classroom experience was a benefit to everyone involved. She learned that the combined classroom afforded the opportunity for "greater flexibility in classroom organization, more individualized instruction, and the opportunities to group children according to ability rather than grade level and to use cross-age tutoring" (p. 48).

Jane Freeman took advantage of not having the administrative expectations that students would be socialized into the combined classroom by their administrative grade level. Like the teacher described by Pratt and Treacy (1986) who de-emphasized grade level distinctions, Jane Freeman sought to develop a

feeling of class unity, irrespective of grade level. She deliberately chose to mix the grades together and blur grade level distinctions:

> When I was first planning for my new class, I decided not to make my seating chart according to grade level, but to mix the grades together. I wanted to give the more able children a chance to share their skills regardless of grade level, and I wanted my group to develop class spirit and solidarity. (p. 48)

By mid-year, "students' friendships are entirely cross-grade and are based on such solid reasons for making friends as common interests and maturity level, rather than age or grade" (p. 48).

Freeman found choosing and planning curriculum for a combination class challenging. Since she was used to grouping students for reading and math instruction, she continued with these groups, but expanded them across grade levels. In all other subject areas, she chose to find common areas within each subject as a starting point for instruction. For example, all students had nutrition units in their health books. Freeman would introduce nutrition to all students using discussion, demonstration, films and activities. All students charted the food they ate and held total class discussions regarding their findings. Grade level books were used for additional study. A similar strategy was employed for poetry. Students shared poems from their grade level language books as a total class. The teacher then assigned one ability level group independent study while she completed a group poem with the other level.

Freeman's general strategy was to begin with an open-ended task (i.e. collecting nutritional information or reading poems orally) involving all students and then moving toward closed task activities individualized to student ability levels.

Reading presented special problems because the range of skill levels spanned five grades. Freeman developed a rotating schedule that allowed her to work with three groups each day and with all the students every two days. While

she worked with one reading group, the other students worked independently. To prevent interruptions during group instruction, Freeman designated three students as "student teachers." They served as tutors for students needing help. Because Freeman's school had a physical education teacher, she arranged to have her entire class go to P.E. together thus creating a block of time for planning.

Freeman was a resourceful teacher who was not constrained by grade level expectations. Whenever possible, students were taught together with open task activities. They were also encouraged to help each other and to develop friendships across grades. Students learned to cooperate and work together because it was encouraged and modeled by the teacher. What began for Freeman as an apprehensive teaching assignment turned out to be a positive and rewarding experience:

> Now when parents or anyone else ask me what it's like teaching a split class, I generally answer that it's not that different from teaching a regular class. Your students are yours to help every year, and you deal with whatever academic, social, or emotional needs they may have. . .. It's a special situation, and the rewards are just as special (p. 50).

Summary

Teaching a combination classroom poses problems not normally faced by the single-grade teacher. Pratt and Treacy (1986) observed and interviewed 15 combination grade teachers and their administrators. They concluded that multigrade classroom instruction does not have, in itself, a negative effect on student achievement or attitude. In fact, many social and academic benefits accrued for students. However, teachers did not perceive the same level of benefits. Their lack of training, and the strong organizational expectation that student grade level identities would be strictly maintained, placed an unnecessary burden on them. For all practical purposes these teachers taught two separate grades at the same time. This required sets of lessons for nearly all subjects.

Freeman (1984) provided an alternative perspective on how to teach combined grades. By drawing on the flexibility, opportunities to individualize, and peer support that the combined classroom offered, she was able to turn an apprehensive situation into a rewarding one for both her and her students.

Instruction in a Multigrade Classroom with More Than Two Grades

If the combination classroom seems like a formidable challenge to most teachers, then the classroom or school which combines three or more grades must appear like an insurmountable obstacle. How can one teacher juggle all those grades with their wide levels of student maturity, ability and motivation? How can one teacher possibly prepare for the many curricular areas, meet individual student needs and have the time to eat lunch? Teaching a broad range of grade levels in the same classroom is complex and demanding. But there are many successful teachers and students who are living proof that mixed grade classes are a viable organizational structure for learning. Although empirical studies of these classrooms are quite scarce, enough descriptive literature was compiled to illustrate both the complexity and the rewards of the multigrade classroom.

Dodendorf (1983) conducted a study of a Midwestern rural two-room school where 35 students spanning five grades were taught. The classroom was organized into two rooms. The "lower" room contained students in grades K-4 while the "upper" room contained students in grades 5-8. All aspects of classroom life were carefully observed and their achievement test scores were compared with students from urban schools. Five positive environmental characteristics emerged from the observational data:

(a) School Routines: These were structured so that children began the day, completed workbook assignments, met in small groups, went to the library, told stories, etc., with a minimum amount of noise and disruption. In part, this was due to a scheduling tree where each student's assignment was posted. It was also due to the highly predictable nature of class routines. For example, spelling tests were given all at once with the unique words for each grade given in turn.

(b) Group Learning: Each grade met with the teacher twice a day. When non-grouped students needed help, they sought out an older student first and then waited at the teacher's station. Aides from the community might have been helpful, but the teacher felt that confidentiality was a problem.

(c) Interdependence: This area was found to be the most striking quality in the school. Younger children often approached older children for help. Mixing of ages and grades was seen both in the classroom and at recess.

(d) Independence: Observed work habits of children indicated a high degree of self-discipline. They had specific assignments and timelines to meet. They passed out corrected workbooks without teacher prompting.

(e) Community Involvement: Community members frequently visited the school. Mothers cooked hot lunch once a month and planned holiday parties. The board chairman stopped by to see if there were any needs. There did not appear to be a clear demarcation between the school and the community. Student attitudes toward new people entering the classroom were always hospitable and friendly. An example was the way kindergartners were welcomed into the classroom. Older students were warm and helped them, frequently explaining what was being worked on.

Results were favorable for the rural school. In terms of academics, students performed nearly the same as their urban counterparts. Only on a social studies subtest was there any significant difference. In terms of classroom climate and social relationships the author noted that:

> Several advantages accrued for children and their parents in this rural school. The observed positive qualities far outweighed the disadvantages, and, more importantly, the values emphasized in the school reflected the community's values. This match of values is rarely achieved in heterogeneous urban schools. Value congruence between

> home and school certainly fostered a secure, stable world for these children to grow up in (p. 103).

Clearly, Dodendorf's study suggests that the five-grade classroom can be a socially and academically effective learning environment for students. The implication, however, is that success depends on the ability of the teacher to organize and manage instruction so that cooperation, independence and a motivation to learn become environmental norms.

Embry (1981) describes the history of Utah's country schools since the early 1900s. Of particular interest is her description of two very small one and two-room schools. Garrison School is less than 20 years old and consists of a small office, closet space and one large classroom that can be divided into two areas. In 1980 there were nine students covering a span of six grades. Students are given responsibility for a large share of housekeeping tasks on a rotating basis: keeping the room clean (janitor), taking care of paper and supplies (supply clerk), checking out books (librarian), ringing the bell, monitoring play equipment, organizing the calendar, leading flag salute and sharpening pencils. Each week a student is honored by not having duties for the week. Developing self-reliance, responsibility and independence in students enables the teacher to better meet individual student needs. It also develops a strong sense of community and cooperation within the classroom.

In order to meet the needs of all students at their respective instructional level, the teacher relies heavily on scheduling and cross-age tutoring. For example, the student who is the acting librarian that week reads a daily story to younger children while the teacher works with the older students. Students might also work together to complete tasks while the teacher meets students individually. Reading, math, English and spelling are handled in this individualized manner. All other subjects are taught as a group, with each student working at their particular

level: art, social studies, science, and music projects are frequently employed. The entire school also sings together, plays recorders, has a marching band, and publishes a school newspaper. Because the school is so isolated, it serves as the center of the community. Parents provide help with track meets, field trips and special programs.

Park Valley, Utah, is a slightly larger school than Garrison with two teachers serving grades K-10. Students are divided into a K-4 class and a 5-10 class. There is an aide in the lower level who teaches kindergarten under the teacher's supervision. This frees the teacher to work with the older students. An additional aide comes in several times a week and provides time for the teacher to work on academic subjects. On the aide's days off, the teacher works on music, arts, crafts and physical education. A similar pattern of organization is followed with the upper level class. Because of the complexity of subject matter in the upper level class, three aides work under the teacher's supervision.

In the lower level class, the teacher organized instruction around key concepts that could be introduced to all students and then individualized to the different levels in the class. For example, time was explained to all the students. The youngest ones drew hands on clocks while the teacher gave instruction on minutes to other students. Special activities also serve as basis for total grouping activities: fire prevention week led to a play, Valentine's Day led to an all school party, the Christmas program involved everyone. For Columbus Day and Thanksgiving, students all worked together on special projects. Students were also grouped by ability so that the talented second grader could work with the fourth grader or the slower student could work with younger students for special skills.

In both Garrison and Park Valley Schools, the teachers took full advantage of the flexibility afforded a multigrade classroom. The teachers used a two-phased approach to group instruction. In the first phase, they introduced a concept to the

entire class (across all grade levels). This allowed for cross-grade interaction with the concurrent benefits of younger students learning from older ones. It also is a more efficient use of teacher time. In the second phase, the teacher has students engaged in closed-task activities at their respective ability levels. Students can also be easily moved from one ability level to another as needed without feeling the stigma that is usually associated with out-of-grade placements.

Special events such as holidays, field trips or any activity that does not require strict grouping by ability (such as closed-task skills) were organized around total class participation. Every member of the class contributes and shares in the successes of everyone else. Students also learn to be responsible and self-directed, able to work independently, provide help to others and receive help when needed. This independence is critically important because it enables the teacher to work individually with students.

Betsy Bryan's (1986) story is unique. She completed her teaching degree in 1980 from an eastern college. While getting her teaching degree she student taught in a small rural two-room school and became convinced that she wanted to teach in a similar situation. Unable to secure a position on the East Coast, she went to New Mexico and obtained a position as a K-1 teacher (so she was told by the school board). With difficulty she found a house to live in and then school began. However, things had changed since her interview with the school board. She now had a class of 18 students ranging from ages five to nine:

> Developmentally they ranged from kids who barely spoke and still wet their pants to children who were ready for third grade work. Some spoke Spanish and some didn't. There were child neglect cases and others who came from caring homes. A few had learning disabilities while most learned easily and delighted in it (p. 3).

To make matters even more formidable, she had no "professional direction or support, limited materials, and little experience" (p. 3). She was not supervised

or expected to maintain grade level differences. However, she had student taught with two master rural teachers who provided examples upon which she could pattern her own teaching.

At first, in order to provide structure and order, she stuck to the basal reader and the other available materials. As the year progressed and she developed a relationship with her class, Bryan began developing her own materials, "scrounging through garage sales for children's books, and visiting a teacher center one hundred miles away to get ideas and supplies" (p. 3). Unfortunately, Bryan does not provide sufficient detail to allow the reader to know how she managed instruction or curriculum. She does tell us that national test scores revealed her students were performing above the national average. Although positive about her first teaching experience, Bryan left after only one year.

Unlike the Dodendorf (1983) study or the description of the two rural Utah schools, Bryan found herself an outsider in an unknown teaching situation. She faced difficulty finding housing, a sudden change in her teaching assignment, feelings of isolation from other teachers and the community. One wonders: If Bryan had remained, would her experience have turned out more like that described by Dodendorf? From her own words, it seems as if conditions in the school and community preempted that possibility:

> . . . it appears that the district [I] taught in [was] full of conflict and lacked leaders who could solve these conflicts. The staffs . . . were from diverse backgrounds and had widely different motivations and philosophies. There were bound to be problems and yet neither the community nor the administration nor the teachers were able to resolve them. [The district] lacked a sense of direction and demonstrated little concern for their teachers. Other factors that influenced [my] decision to leave included living conditions and the loneliness [I] felt trying to fit into [a] rural close-knit communit[y] (p. 5).

Ann Hoffman's (1973) story is quite different from that of Betsy Bryan (1986). Hoffman's school was smaller than Bryan's, but her class size and range of

students were similar. When Hoffman first began to teach in the Kingvale two-room school, she had 15 students in grades K-3 and no aide, but after three years her class grew to 27 students and an aide was hired. Hoffman says that when she first began teaching in Kingvale, "we had a wonderful time. In the past two years the class load has grown. We still have a wonderful time . . . but a lot noisier one!" (p. 42).

Hoffman (1973) describes in detail how she organized her classroom to accommodate student needs. Clearly, her planning and organization are well in advance of instruction. Before school begins, she reviews science and social studies texts for upper-grade students and makes a list of what must be covered, by week, for the entire year. Materials and films are ordered at this time. She believes preparation must be done well in advance of the students.

Hoffman distinguishes between those subjects that lend themselves to total class instruction and those that must be taught on a more individualized and/or graded basis. For example, health, storytime, literature, drama and music can be taught to the total class. These subjects are also considered "elastic" in that they can be altered, combined or skipped depending on circumstances. Consistent time is scheduled for high priority, skill-based subjects such as reading and math. For example, reading and math are taught in the morning, with students working independently while the teacher holds conferences with and instructs other students. First grade is taught as a group, but the other grades are primarily individualized. Index cards are used to track individual progress. Reading is taught for 70 minutes daily.

What is clear from Hoffman's account of her classroom is that she is well organized and has a clear structure for the way instructional events unfold. Students know what is expected and classroom routines are well established. There is also a sense of the novel and interesting. There are daily student oral

presentations (across grades) of stories, poems, reports and current events. A learning center on magnets and a center with special books for students can be found. Friends drop into the classroom and may become part of a lesson. Hoffman says she tries to keep her room interesting. But she notes the multigrade environment is not all roses:

> I can't pass a problem child on to another teacher the next year. I can't use the same old art ideas year after year. Science, social studies, music--every subject has to be completely revamped each year (p. 45).
>
> Films are boring when seen for several years in a row and so have to be changed. Room decorations must be new and different. I can't get new ideas from the teachers next door. I have to be super-prepared or I'm in for a very hectic day (p. 45).

Yet despite these changes, the strengths far outweigh the disadvantages:

> . . . [I]t is a most satisfying feeling to watch a kindergartner mature into a hard-working third-grader. A child can easily be placed ahead or back in areas in which he excels or is having trouble. Older children can work with the younger children . . . we have a ski program for physical education. The parents are friendly and helpful (p. 45).

Summary

The multigrade classroom and one-room school are alive and well in rural America. Stories like Ann Hoffman's from Kingvale abound if someone is there to hear them. Unfortunately, the story told by Betsy Bryan is often heard instead. Problems of inadequate facilities, poor leadership and limited resources have been used as evidence for seeking consolidation. Without question, teaching in a multigrade classroom with more than two grades is a demanding task requiring a special type of individual. But it also requires training, community understanding and support.

As evidenced in the descriptions presented, the multigrade teacher must be well organized and put in lots of preparation time. Educators have much to learn from these teachers about classroom management and instructional organization.

The multigrade classroom is an environment where routines are clearly understood and followed. Students learn to be self-directed learners, often working alone or in small groups. They must also be able to help others and serve as positive role models. A positive family-like atmosphere often must be developed, one in which cooperation and solidarity among all students predominates. Without these elements, a multigrade teacher could not manage the vast variability in student needs. Bruce Barker (1986) does an excellent job summarizing the characteristics and working conditions that the multigrade classroom teachers faces:

> She lives in a remote setting in either the Midwest or far West, enjoys teaching in a small school . . . she teaches an average of 11 students ranging in grades one through eight, works an average of about nine hours a day in tasks related to instruction, yet is also the school custodian and school secretary. She may even prepare the school lunch and drive the school bus. . . the assignment to teach in a one-teacher school may be the most demanding of all positions in the profession, but for those who love young people and enjoy teaching, it could well be the most rewarding (p. 150).

Conclusion

This review of the research on multigrade classroom instruction focused on answering two questions:

1. What effect does multigrade instruction have on student performance?

2. What kind of teacher preparation or training is needed to be an effective teacher in a multigrade classroom?

In addition, these two questions implicitly ask what implications the research literature has for districts currently operating or considering multigrade classrooms.

In terms of academic achievement, multigrade students do not appear to fare any better or worse than single-grade students. Some research evidence does suggest there may be significant differences depending on subject and/or grade level. Primarily, these studies reflect the complex and variable nature of school life.

However, there are not enough of these studies to make safe generalizations regarding which subjects or grade levels are best for multigrade instruction.

The evidence drawn from research focusing on affective student measures provides a strong case supporting multigrade instruction. Student attitudes toward school and self tend to be more positive in the mixed-grade classrooms. Multigrade students also interact more with other age students and have more positive attitudes toward peers than single-grade students. Several factors appear to play a part in these differences.

In the multigrade classroom, student developmental and academic differences can be handled more easily than in a single-grade class. Multigrade students regularly interact with a wide range of students. This increases the likelihood that individual students can find an academic or development match in their class. For example, the immature upper-grade student may find a lower-grade student to befriend without the stigma generally associated with "hanging around with younger students."

In a similar manner, the teacher can have lower performing students from an upper grade work with students in the lower grade without the burden associated with out-of-grade-level placement. Students also learn the advantages inherent in behaving cooperatively with older and younger students and they have a greater opportunity to develop responsibility by modeling and helping other students.

On face value, students in multigrade classrooms would appear to be better off than students in a single-grade classroom. However, the evidence suggests that from the point of view of school organizational norms and levels of teacher preparedness, the multigrade classroom generally serves as a temporary remedy to school enrollment and financial concerns.

In other words, most multigrade (especially combined grades) classrooms are viewed as temporary remedies to be endured for a year (or so) until things

return to "normal." Lest we too quickly forget our educational heritage in the district school, there still are more than 1,000 one-room schools where three or more grades are taught together (Muse, Smith & Barker, 1987). But the tide of teacher and administrative opinion strongly favors organizing schools by grade level.

Graded classes are believed to be more efficient and easier for the teacher. This assumption is based on the notion that students at a given administrative grade level are all at the same ability level. In other words, a fourth grade teacher only has students functioning at the fourth grade ability level.

Most educators know that at any given grade level there is a span of student ability (see Wragg, 1984). This variability can often be seen in the form of multiple math and reading groups with most other subjects being taught at the grade level. In larger metropolitan schools, ability differences are even further distinguishable by those students who attend Chapter 1, special education or talented and gifted programs. In still other classrooms, no distinctions may be made. Instead, all students are taught as if they were all at the same ability level. In reality, many single-grade classrooms are quite similar to the multigrade classroom. Except in those rare cases of tight homogeneity of student population in a community, there may be more similarities than differences between multigrade and single-grade classrooms.

The skills needed to effectively teach the multigrade and the single-grade (multilevel) classroom appears to be quite similar. The differences between the two classrooms may be more a product of socialization and expectation than of fact. Clearly, students are harmed when the teacher fails to recognize and teach to the individual differences in a classroom. It also is apparent that teachers are harmed when they have not been adequately prepared to teach students with varying ages and abilities. Wragg (1984) does an excellent job summarizing these

instructional implications when he describes the results of a large scale study of teaching skills:

> There seemed to be much less confidence among teachers about how best to teach bright pupils and slow learners in mixed-ability classes than in any other aspect of professional work we studied during the project. Most mixed-ability teaching was to the whole class, and some schools made almost no use at all of cooperative groupwork . . . Even the teachers we studied who were regarded as successful found it very exacting to teach a mixed-ability class well, and were less sure about their teaching of bright pupils than about other aspects (p. 197).

What does the research tell us regarding the skills required of the multigrade teacher? Wragg's (1984) observation suggests that the skills needed of the single-grade, multiability classroom are similar to those of the multigrade teacher. With an increase in the number of grades taught in a single classroom, a greater demand is placed on teacher resources, both cognitive and emotional. Six key variables affecting successful multigrade teaching were identified from the research:

1. Classroom organization: arranging and organizing instructional resources and the physical environment in order to facilitate student learning, independence and interdependence

2. Classroom management and discipline: developing and implementing classroom schedules and routines that promote clear, predictable instructional patterns, especially those that enhance student responsibility for their own learning. Developing independence and interdependence is also stressed.

3. Instructional organization and curriculum: planning, developing and implementing instructional strategies and routines that allow for a maximum of cooperative and self-directed student learning based on diagnosed student needs. This also includes the effective use of time.

4. Instructional delivery and grouping: instructional methods that will improve the quality of instruction, including strategies for organizing group learning activities across and within grade levels, especially those that develop interdependence and cooperation among students

5. Self-directed learning: developing skills and strategies in students that allow for a high level of independence and efficiency in learning individually or in combination with other students

6. Peer tutoring: developing skills and routines whereby students serve as "teachers" to other students within and across differing grade levels

In the multigrade classroom, more time must be spent in organizing and planning for instruction. This is required if the teacher wants to meet the individual needs of students and to successfully monitor student progress. Extra materials and strategies must be developed so that students will be meaningfully engaged. This allows the teacher to meet with small groups or individuals.

Since the teacher cannot be everywhere or with every student at the same time, the teacher shares instructional responsibilities with students within a context of clear rules and routines. Students know what is expected. They know what assignments to work on, when they are due, how to get them graded, how to get extra help and where to turn them in.

Students learn how to help one another and themselves. At an early age, students are expected to develop independence. The effective multigrade teacher establishes a climate to promote and develop this independence. For example, when kindergarten students enter the classroom for the first time, they receive help and guidance not only from the teacher, but from older students. Soon, they learn to be self-directed learners capable of solving many of their own needs. They become self-sufficient. Kindergartners see how other students behave and they learn what is expected of them. Because older students willingly help them, kindergartners also learn cooperation and that the teacher is not the only source of knowledge.

Instructional grouping practices also play an important role in the successful multigrade classroom. Grouping is a strategy for meeting teacher and student needs. The teacher emphasizes the similarities among the different grades and teaches to them, thus conserving valuable teacher time. For example, whole-class (across grades) instruction is often used since the teacher can have contact with

more students. However, whole-class instruction in the effective multigrade classroom differs from what one generally finds in a single-grade class.

Multigrade teachers recognize that whole-class instruction must revolve around open task activities if all students are to be engaged. For example, a teacher can introduce a writing assignment through topic development where all students brainstorm for ideas. In this context, students from first through eighth grade can discuss and share their different perspectives. Students soon learn how to listen and respect the opinions of others. For the older students, first graders are not simply "those little kids from the primary grades down the hall." They are classmates. Learning cooperation is a survival skill--a necessary condition of life in the multigrade classroom. Everyone depends on each other and this interdependency extends beyond the walls of the school to include the community.

But teaching in the multigrade classroom also has many problems. It is more complex and demanding than the single-grade classroom. A teacher cannot ignore developmental differences in students nor be ill-prepared for a day's instruction. Demands on teacher time require well-developed organizational skills. Clearly, the multigrade classroom is not for the timid, inexperienced or untrained teacher.

Implications

For districts or schools contemplating or currently operating multigrade classrooms, there are important implications drawn from the research:

1. Student Performance:

    a. Students in multigrade classrooms perform academically as well as students from single grades.

    b. Students in multigrade classrooms generally have more favorable attitudes toward their peers and school than students from single-grade classrooms.

c. Student performance is mediated by the level of teacher expertise. In other words, multigrade instruction requires a high level of skill in classroom management, instructional organization and a broad repertoire of instructional strategies. Without adequate training and experience, student performance will likely suffer.

2. Training in how to teach in a multigrade classroom is critically important for success. However, training should be grounded in a field-based experience where the novice has the opportunity to observe and teach with an effective model. This should be coupled with ongoing staff development.

3. The concept of multigrade instruction is more likely to be seen as important if linked to the concept of the multi-level class. For example, prospective teachers are more likely to take a course entitled "teaching multiple-ability levels in the classroom" than "teaching in the multigrade classroom." When most new teachers seek employment they expect to work with a single grade level. However, circumstance can change that and place the teacher in a combined classroom.

4. The skills of the effective multigrade teacher are worth emulating in the single-grade classroom.

5. If a district deems it necessary to combine grades, administrators should be apprised of how roles will change and what is to be expected, especially in the following areas:

   - increase in planning and materials preparation
   - increased level of stress because there is less time to reflect on teaching
   - support and guidance regarding curriculum alignment
   - potential for increased pressure from parents
   - importance of communicating to the teacher what is expected in terms of planning and grade differentiation
   - the effect of grade differentiation versus the development of across-grade solidarity and cooperation
   - importance of ongoing support for success
   - value of recognizing teacher efforts

6. Multigrade instruction has a long, successful tradition and, based on research evidence, is a viable approach to school organization.

7. There are definite characteristics of successful multigrade teachers that should be considered in teacher selection:

   - well organized
   - creative and flexible
   - willing to work hard
   - resourceful and self-directed
   - willing to work closely with the community
   - strong belief in the importance of cooperation and personal responsibility in the classroom with the ability to develop these characteristics in students
   - prior successful experience at the grade levels to be taught

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"The drinking fountain, pencil sharpener and bathroom privileges account for the most out-of-seat traffic jams. Therefore, these are all located on the same wall and direction (corner) of the room. It seemed reasonable to put paper and pencil supplies and baskets for finished work on top of a bookshelf in this same area, and to focus study group tables, the teacher resource area and quiet reading corners on opposite walls so there would be limited traffic, noise and distractions."

– Pat Reck
multigrade teacher

Chapter 2

Classroom Organization

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CLASSROOM ORGANIZATION

When we think of the physical classroom, we generally picture the traditional arrangement of neatly ordered desks, all facing the teacher. Yet we should not assume that this convention is the best or only way for organizing the learning environment. In fact, in the multigrade classroom, where flexible grouping and individualized instruction characterize instructional organization, the traditional floor plan may limit flexibility. However, during the first couple of weeks of school, it may be helpful to arrange desks in rows or other traditional alignments. This can aid the students and the teacher in establishing clear expectations for classroom routines and student behavior. Thereafter, teachers establish cooperative small group work and learning centers and other flexible classroom arrangements that greatly facilitate classroom management needs and require increased student responsibility.

In the typical multigrade classroom, where multiple activities are likely to occur at the same time, classroom organization is a critical factor in developing smooth predictable routines. We also know from research on effective classroom practice that when students have a clear understanding of classroom structure, procedures and rules, they are more likely to follow them, especially if they have had some involvement in decision making. Although there is no single "best" way to arrange your classroom, there are some general guidelines which apply to most multigrade settings. Review these guidelines and use them for planning your own classroom. Sample classroom floor plans and a planning kit have been included to aid you in laying out your own classroom (see pages 61 and following).

The Activity Centers Approach

An activity center can be defined as any discernable pattern of student or teacher behavior that can be clearly described and labeled. One common example is seatwork, where students work independently at a desk. Another example is pair work, where two students work together. Three or more students working together is generally characterized as groupwork. A classroom may also have areas designated for art, using audiovisual equipment, computers and instructional resources. Each example reflects a type of activity where expectations for behavior may be clearly defined. In summary, an activity center describes an area of the classroom that the teacher has designated for a specific purpose.

Two other types of centers need to be distinguished from an activity center. A *Learning Center* is a term used to describe a self-instruction learning activity that has been placed in a clearly defined area of the classroom. It can be in any subject and generally includes objectives, instructions, and evaluation (see the section entitled Instructional Delivery and Grouping for more detail).

Another type of center is a *Subject Area Resource Center.* This is an area where student resources relating to a specific subject are located. For example, resources relating to the study of science may all be located in one well marked area of the classroom.

What type of activities normally occur in your classroom? What type of activities would you like to occur? Do you have group projects? Are there students who tutor? Do you meet with individual students and/or small groups? Is it important for students to be self-directed, being able to help themselves with little teacher interruption? Answers to these questions should help you decide how to arrange your classroom in terms of the activities that engage students.

There are six general types of activities found in most classrooms:

1. quiet or individual study
2. testing
3. partner work
4. group discussions
5. audiovisual and reference work
6. teacher tutoring or small group instruction

Furniture and equipment should be arranged to create activity centers appropriate to the type of activity you intend to occur.

In the multigrade classroom there may be many different kinds of activities going on at the same time. Some students in 4th and 5th grade might be working on a group art project while two students may be peer tutoring in math. Two first graders may meet with the teacher and several students might be completing independent assignments requiring the use of a tape recorder and the computer. The teacher's task is to arrange the classroom so that all these activities can take place at the same time with a minimum of teacher direction, supervision and disruption.

General Considerations When Planning

When deciding how you would like your classroom organized, you must consider the types of behaviors that are appropriate during teacher instruction, student independent study, or small group work and how the arrangement of your classroom will foster these different learning activities. Topics to consider when making decisions regarding classroom arrangement include:

Activity and Noise Level

When deciding how you will arrange your room in order to accommodate different learning activities, you must consider the level of activity and noise that is likely to occur. If students work together on a group activity, they are likely to make more noise than if they are independently completing a report or taking a test. Obviously, you would not want to have these two activities happening side by side. Therefore, you should try to arrange centers from quiet (i.e. independent study) to noisier level (i.e. group discussion) activities. For example, in one corner of your room you might have students working independently. At the opposite corner, students could be holding a discussion group.

It is helpful to label these different activity areas in your classroom as centers. As you define the different learning centers, you will want to specify the type of behavior appropriate for each area. If you have a reading center, for example, you might, in consultation with students, decide that books will be returned after use, that quiet reading is expected, and only a certain number of students can be there at a time.

Using Visual Barriers to Define Activity Areas

When you decide on your activity centers, it is quite helpful to use your furniture as a means of defining the boundaries of different work areas. Bulletin boards, portable blackboards, bookshelves and file cabinets work well as dividers. These visual barriers help define the different centers and help isolate the different levels of activity. However, it is quite important that you can see what is occurring at each center from your teacher work area. This will make it much easier to monitor student behavior. For example, if you see that a student is working with another student in the independent area, you can request they work independently or move to a center where talking is allowed.

Teacher Resources

It is important to give some thought to the idea of a teacher resource center. This is an area for teacher-controlled resources such as tests, teacher manuals and assignment files. In addition, this area serves as a place where the teacher meets with individuals or small groups of students. Often, most teachers simply put a table, bookshelves, file cabinets and a blackboard in the center.

Student Resources

You may wish to place resources used by students in a central location. These may include textbooks, encyclopedias, library books, dictionaries and student storage. These materials need to be arranged so that students can find and return them independently. This area should be accessible from any center in the room with a minimum of disruption.

Traffic Patterns

Once you have identified your activity centers and made some tentative decisions regarding their placement, you must review your floor plan with an eye toward student traffic patterns. Your goal is to enable students to move freely from one activity center to another with minimum disruption. If a student needs a book from the resource center, will he or she have to walk through the quiet area? You should make sure that AV equipment is near an electrical outlet and that science materials needed for an assignment are located in the appropriate areas. Of course, you must also consider that there is clear and safe access to emergency exits.

Pat Reck, a multigrade teacher from Brothers, Oregon, describes how she has organized her classroom to accommodate student traffic:

The drinking fountain, pencil sharpener and bathroom privileges account for the most out-of-seat traffic jams. Therefore, these are all located on the same wall and direction (corner) of the room. It seemed reasonable to put paper and pencil supplies and baskets for finished work on top of a bookshelf in this same area and focus study group tables, the teacher resource area and quiet reading corners on opposite walls so there would be limited traffic, noise and distractions.

Specifying Activity Centers for Students

When arranging your classroom, ensure that activities that will occur at each work area will be supported by the equipment and materials available. In the individual study area, this means you might use student desks separated from one another to discourage talking; in the pair work area you could place two student desks together that encourages sharing. You do not want students wandering through different centers seeking electric outlets or water. Furnishings need to be appropriate to the type of activity that will occur at each center.

Accommodating Age Differences

In multigrade classrooms, it is important to consider the age and size differences among students. For example, consideration needs to be given to the procedures for finding materials and to the size of the furniture. If you intend to use a materials resource center, then some thought needs to be given to primary grade students who may not be able to read. This is quite important if you desire to have students find materials independent of the teacher. Several strategies are worth considering. Subject areas could be color coded and/or pictures used instead of words. Older student helpers could also be used. Remember, your purpose in using centers is to encourage and develop independence.

The physical size differences of students will also need to be considered. If you have a range of students in your classroom from grades one through seven, then the same size furniture will not accommodate these differences. When

reviewing your room arrangement, you might ask yourself whether the different activity areas will work with the range of students in your classroom. For example, are the desks in the independent study area of differing sizes? Can a range of age levels use the discussion area without having to make changes? Remember, when planning your floor plan, keep the students you teach in mind -- their age, development and physical characteristics. Pat Reck from Brothers illustrates the importance of this reminder when she describes how she adjusts to student needs for a sense of personal space:

> Children respond to ownership and territorial bases in a multigrade situation. I created a 'kindergarten' corner with a floor rug for cut and paste, free reading, coloring and sprawling! There were tubs of learning games, head-sets with children's literature, and lots of manipulatives. This area was for 'free' time after curriculum and times when I was one-on-one with others. My 6, 7, and 8th graders felt they needed a 'lions den' where they could get away. So the computer room became a large study-table area where they could go and work in pairs and have some freedom from the younger ones. This area should reflect junior high in posters, charts, art work and visuals appropriate to their age.

Student Belongings

Flexibility is the key to organizing your multigrade classroom. Students need to move around the room in order to complete their tasks. Traditional classroom arrangements may not work. For example, assigned seats can limit flexibility. However, it is important that students have a place to store their belongings. Numerous ideas have been developed for storing student belongings. Traditionally, individual desks are used for student storage. However, in the multigrade classroom this may not be appropriate. Some teachers have used tote trays, lockers, or stacked boxes (see Chapter 3, Classroom Management and Discipline, for detailed examples, p. 76 ff).

Explaining Your Room Arrangement

However you choose to arrange your room, you will need to explain the rationale to students and parents. It is often helpful to label each activity center and to include a few simple rules regarding the appropriate behavior for each center. If students help develop the rules and make the signs for the different centers, they are more likely to understand and follow the rules.

If you clearly define each activity center and specify behavior standards, students will have a much easier time. This does not mean that you have a set of strict rules governing the entire classroom. It does mean that you have rules that reflect the purpose of the different areas in the room. For example, you might post a sign over the "pair work area" which states the name of the area and that only students working quietly in pairs are allowed. It means that in the "independent work area," there is no talking, only working independently. However, students need to be introduced to the room, and their behavior needs to be consistently monitored. Robin Lovec, a multigrade teacher from Montana sets out what is expected of students. This is done very early in the year:

> The teacher should be the model and let students watch while you act out the role of the student. Let them hear your thought process as you go through what is expected within the guidelines established for the classroom, and what would happen if you went outside those guidelines.

Floor Plan Design

The principles of classroom design should be clear. Remember, you must decide on several key things:

- What types of activities will occur in your classroom?
- How will you arrange the room to accommodate these activities?
- How will you communicate to students the different activity areas of your room?

- What behavior is desired in each area? Will students help decide?
- How will you teach students what will be expected in each area and why?

Figures 1 and 2 provide sample floor plans for a self-contained classroom organized around the concept of activity centers and one organized around cooperative learning workgroups. The following questions may be useful in reviewing these two classroom organization plans:

1. What activity centers are there? How are they organized in relationship to one another?
2. How have the different activity centers been defined? Are the furnishings for each center appropriate for the activities that will occur?
3. What effect will traffic patterns have on the intended activities for each center?
4. How have the principles of noise and activity level been used in laying out the room?
5. What changes would you make if this were your room?

FIGURE 1. SELF-CONTAINED CLASSROOM ORGANIZED BY AREAS OF ACTIVITY

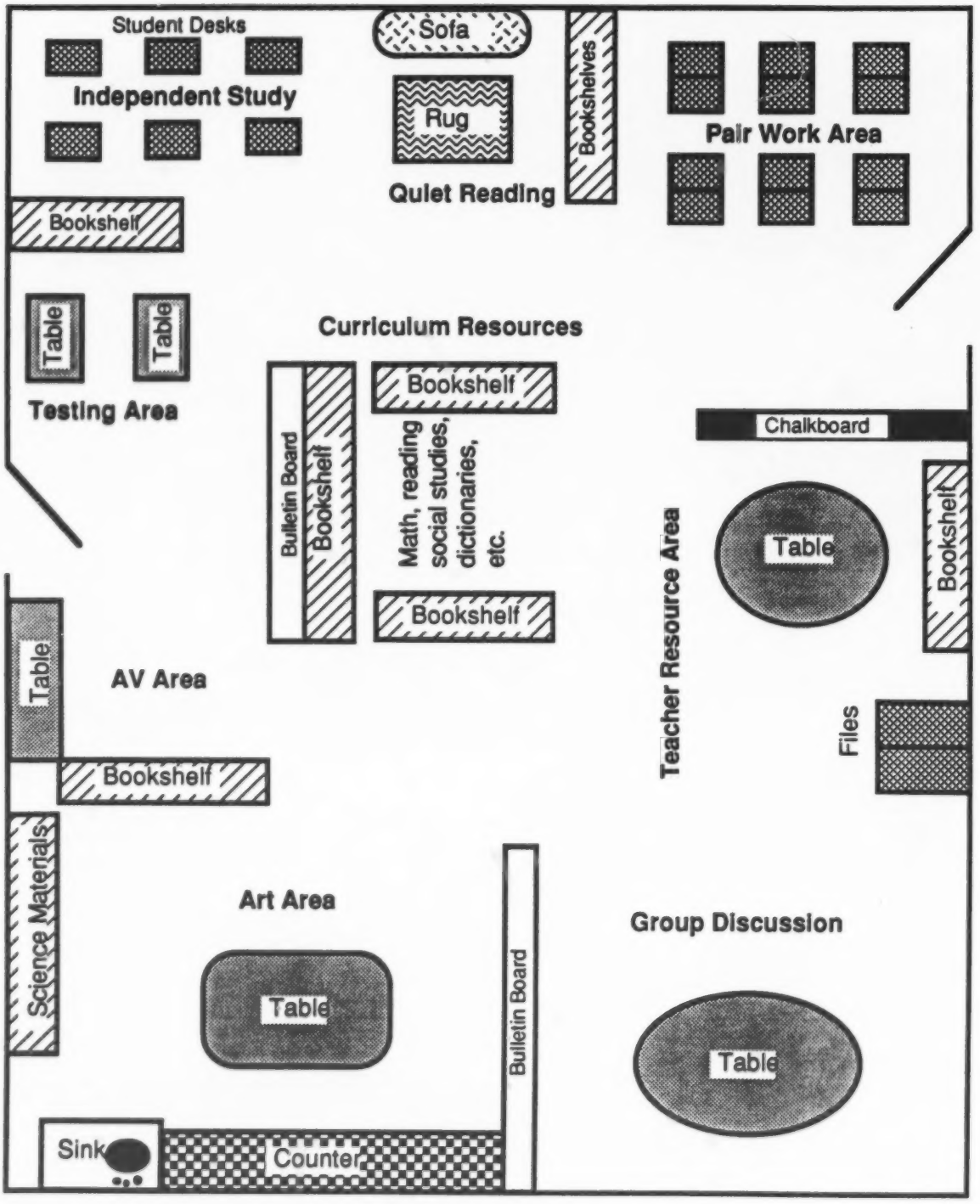
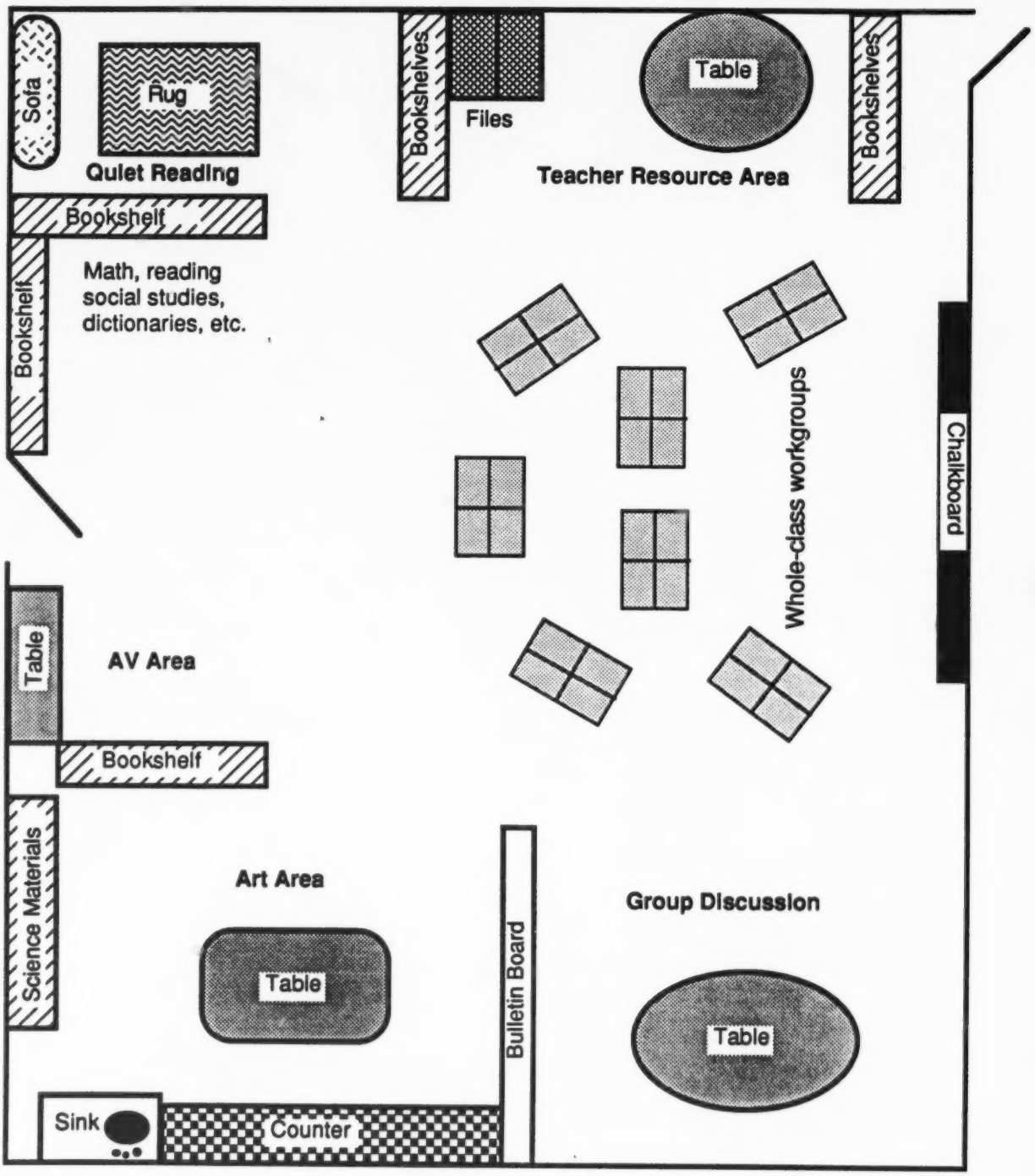


FIGURE 2. SELF-CONTAINED CLASSROOM ORGANIZATION FOR COOPERATIVE LEARNING



Designing Your Own Room

With a clear understanding of what types of learning you would like to see in your classroom, you are ready to begin laying out your floor plan. Paul Berg (1977), a multigrade classroom teacher and education professor from Alaska, developed an inservice training activity to help multigrade teachers design their classrooms for more efficient instruction. Berg emphasizes organizing the classroom around subject area resource centers as a means of improving instructional efficiency. Although this is not the only way to organize your classroom, it does provide an excellent place to begin. Four key principles guide Berg's planning:

1. The efficient classroom is a center of learning activities. Furniture and materials in the classroom should directly support the types of learning that occur.

2. In efficient classrooms, materials and furnishing not in use are removed and stored until needed.

3. The use of subject area resource centers is an efficient method of organizing classroom resources. For example, organizing reading materials into a reading center makes sense for two big reasons:

    - With materials in one area, no time is lost trying to locate materials scattered about the room.

    - The arrangement of the center (books, table, chairs, pencils, paper, rug, blackboard, etc.) encourages reading behavior.

4. Classroom arrangement must be flexible to accommodate new learning activities. Learning centers can be rearranged or changed entirely to support the learning activities desired by the teacher. Subject area center materials are often changed to reflect new units of study.

Four Design Steps

In laying out your floor plan, you might want to refer to the sample plans introduced earlier. Some teachers have found it beneficial to use small pieces of paper to represent the different types of furnishings. These can then be moved

around as desired. Feel free to cut out and use the furnishings found in the sample plan. Be sure to include doorways, sinks, counters and other permanent structures. If the spaces provided for designing your floor plan are too small, turn the page over or use a blank sheet of paper.

Step I: Describing The Way It Is Now

Draw a floor plan of the room you will be teaching in. This may be the classroom you taught in last year or a new one.

Step 2: Deciding on the Types of Activities That Will Occur

Identify the specific learning activities that will take place in your room and write them on the lines below. It may be helpful to take the time and jot down the types of behavior you expect for each activity. You may want to refer to earlier sections entitled "the activity centers approach" and "consideration when planning."

A. _____

B. _____

C. _____

D. _____

E. _____

F. _____

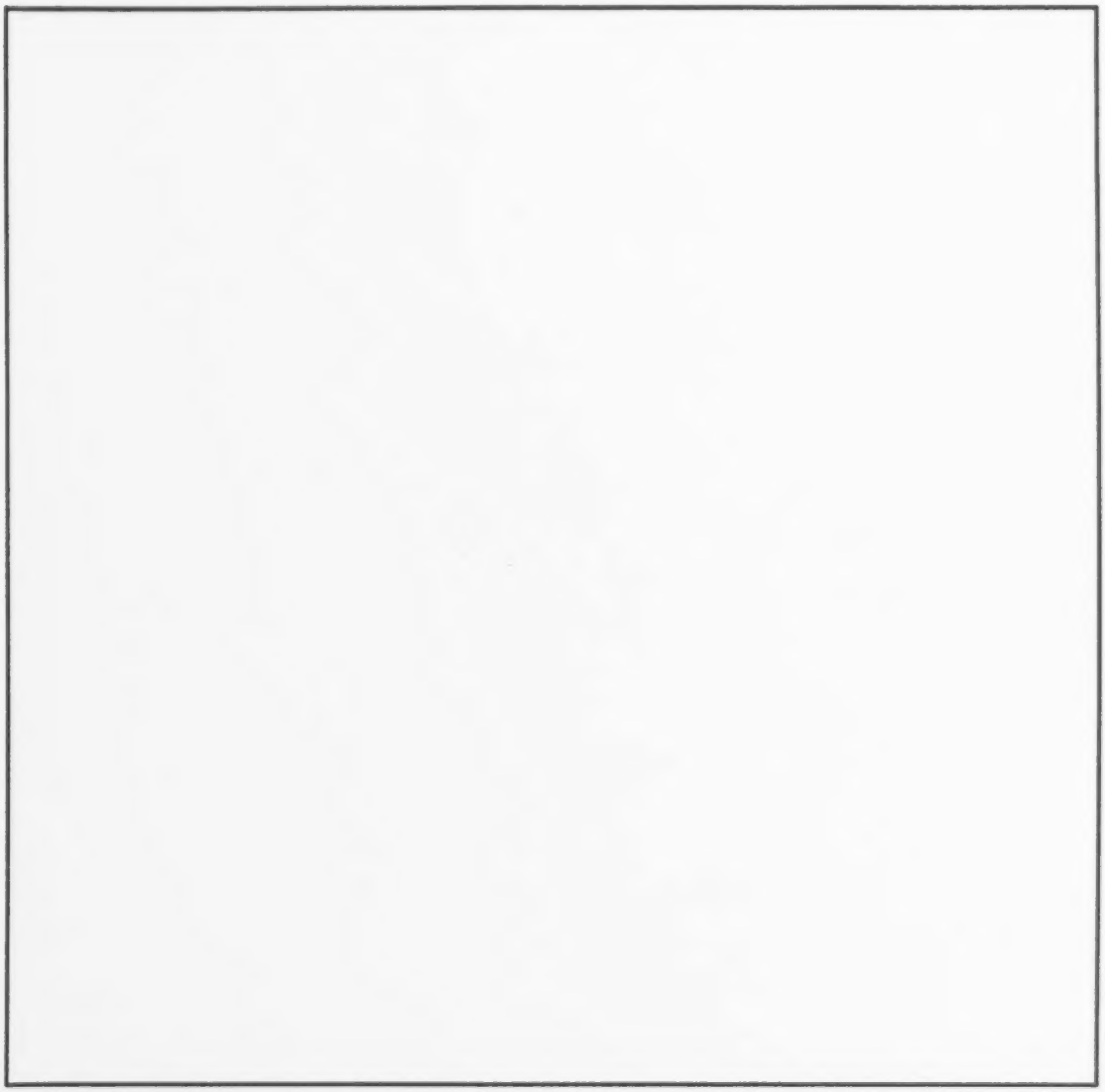
G. _____

H. _____

I. _____

Step 3: Drawing the Final Plan

Review your drawing of the classroom you will be teaching in in terms of the activities you have spelled out in Step 2. Now, lay out your classroom to promote the learning activities you desire, noting the placement of furnishings, materials, and storage areas.



Conclusion

Whether you choose to organize your classroom around activity centers or not, remember that your floor plan should reflect regular classroom activities. If, for example, you offer lots of cooperative learning activities, you may design your room with several group discussion areas. If you do lots of teaching to large groups, then you will likely have an area where all the students can be seated together.

If your goal is to revise your classroom around activity centers, keep in mind that you don't have to do it all at once. You can allow the classroom to evolve over the year, adding a center at a time as both you and the student become more comfortable with small group, self-directed learning activities.

References

Berg, Paul (1977). Increasing the efficiency of the one room school. (ERIC Document Reproduction Service No. ED 270 250)

Resources

Dennison, B.; And Others. (1978). Rearranging the traditional two-teacher school to fit the linear multiple-area plan.

This article describes a plan for converting a traditional two-room school into an open teaching space in which two teachers teach co-operatively. A sample floor plan is presented.

Available from: ERIC
3900 Wheeler Ave.
Alexandria, VA 22304-6409
1-800-227 3742
Price: $2.00

Wellington Department of Education. (1977). The rural school: A handbook for principals and staff. Wellington, New Zealand: E.C. Keating, Government Printer.

This booklet addresses issues relating to small schools organization. Sample floor plan designs are presented along with issues to consider in planning.

Available from: Wellington Department of Education
Wellington, New Zealand
Price: not available

"I found that we had to set up some pretty rigid guidelines at the first of the year. Basically it was four or five rules and the biggest part was that no student had the right to disturb and stop the education of another student. We worked on basically that one rule and then on students learning to be independent."

– Phil Gillies
multigrade teacher

"At the beginning of the year, we decided all the rules. I don't have more than seven. The kids are part of the deciding: I am not a dictator. This is a whole class and we are a family that works together. I decided the consequences because I have to enforce the rules. So the consequences are mine, but the rules with my guidelines are what we set."

– Robin Lovec
multigrade teacher

Chapter 3

Classroom Management and Discipline

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CLASSROOM MANAGEMENT AND DISCIPLINE

The following information is meant only as a beginning--something you will want to add to, modify, and use in the way that best meets your needs. Managing the classroom is a critical element in successful instruction and requires good organizational ability and consistency. Students come into the classroom expecting the teacher to give them guidance and direction about rules and procedures and how the classroom is organized for instructional use. Having a uniform and predictable set of rules and procedures simplifies the task of being successful. Having clear and efficient routines make classroom life run smoothly. Because there are so many different levels in a multigrade classroom, the need for clear, consistent rules and procedures is even more critical than in traditional single-grade classrooms.

Most of the research reviewed has been drawn from single-grade classrooms. As pointed out in the research review in Part I of this resource handbook, research into rural multigrade classrooms is limited. In the area of classroom management, it is nearly non-existent. However, there is extensive research that describes the classroom practices of effective single-grade teachers. Many of the practices researchers have observed in these classrooms have wide, general application across both single and multigrade classrooms. Multigrade teachers from the Ashland multigrade conference who examined this chapter of the handbook found them applicable to their own teaching situations.

Three Phases of Classroom Management and Discipline

Effective teachers have been consistently observed by researchers to engage in three distinct phases of classroom management and discipline: 1) planning before school begins, 2) implementing plans, and 3) maintenance

(Emmer, 1987). Each phase will be presented along with examples of what effective teachers do during each phase.

Phase I: Preparing for the Beginning of School

Effective teachers make their expectations explicit through clear rules and procedures that are consistently taught and enforced. The first few weeks of school are used to establish these expectations. Therefore, early planning and preparation before school begins is critical for starting the school year off right. As one multigrade conference teacher noted, "Teachers must have their own idea of what the classroom will look like and how it will function before the first day of school." In other words, before the students arrive, the teacher must develop a vision of classroom life: how students will behave and relate, where they will work, how resources will be organized, and other important classroom considerations.

During Phase I, teachers focus on planning the arrangement of the classroom, organizing supplies and materials, and planning instructional activities for the first few days of school. In a review of seven different studies of teacher planning for the beginning of the school year, Emmer (1987) identified three key areas of teacher attention:

- Arranging the Classroom: Effective teachers focus on organizing furnishings and materials in order to facilitate instruction in several general ways: 1) Student seating should be easy to monitor by the teacher and not distracting to the students; 2) Well used areas of the room should be easily accessible; 3) Materials and equipment should be quite accessible by students and the teacher.

- Identifying Expectations for Behavior: Establishing productive norms for student behavior can make the difference between success and failure for a classroom teacher. These norms are best set early in the year in a variety of ways, such as "teacher praise for appropriate behavior, corrective feedback, formally presented rules, establishing procedures that regulate behavior during classroom activities, and academic work requirements (Emmer, 1987, pp. 236-237)." Students must learn how to behave in a wide variety of work and social situations. If the teacher can lay out in advance the desired

expectations for some of these situations, it is more likely that students will behave in the desired manner. Some of the activities that must be planned for are:

a) Whole-class instruction
b) Teacher-led small groups (and for students not meeting)
c) Independent small cooperative workgroups
d) Individual seatwork
e) Transitions between activities
f) Room and equipment use
g) Tutoring students
h) Giving and receiving assignments

- Planning Consequences: Once a teacher develops clear expectations for student behavior in different learning and social areas, the next step is to decide on consequences for students who follow or do not follow these expectations. Consequences may be divided into two general areas, rewards and punishment. Stickers, awards, prizes, or privileges are examples of commonly used extrinsic rewards. Emmer (1987) suggests that punishments, "be reserved for behaviors that are easily observable and relatively infrequent [otherwise] inconsistent teacher use of punishment is much more likely (p. 238)." When students are successful and receive teacher feedback, approval, and recognition, the need for extrinsic rewards are minimal. In other words, teacher behavior and instructional quality have a bigger impact on producing positive student behavior than the reward and punishment consequences a teacher may establish (see Chapter 4, Instructional Organization and Curriculum for more information on establishing a positive instructional climate).

  Additional areas will be presented toward the end of this chapter in the planning guide for classroom procedures and rules.

Phase II: Beginning the School Year

During this phase, the teacher seeks to put into practice plans that have been developed prior to school starting. This is the time when norms are established and students develop a view of how "this particular class will operate." Emmer (1987) identified three principles that can help the teacher get off to a good start:

- Teach Students to Behave. Teach rules and expectations as if they were academic content. For example, if you use cooperative workgroups, be sure students know what it looks like to cooperate and give them the opportunity to practice. Students should know from

the teacher exactly what is expected for the different types of activities in the classroom. A recently completed 5 year study of a program designed to teach elementary students prosocial behaviors demonstrated the effectiveness of treating rules and expectations as academic content. Children in the program displayed more spontaneous prosocial behavior toward one another, were more supportive, friendly, and helpful than students in a group of comparison schools (Solomon, D., Watson, K., Delucchi, S, and Battistich, V., 1988). However, it was not only teaching of desired social skills and behavior that produced the results, but also structuring the learning environment and teacher modeling.

- Consider Students' Concerns. It is important to recognize that students may be anxious or nervous about their new environment. They may have concerns about being successful, socially getting along well with others, and doing the "right" thing. By being supportive and encouraging and providing activities with high success rates, you can alleviate some of these fears.

- Lead the Class. Research has demonstrated that the most effective teachers maintain a highly central role in the classroom. They are not authoritarian tyrants, but they do not turn the class over to students. They make decisions aimed at achieving specific purposes and they monitor their decisions for effectiveness. For example, if they desire students to work in small problem-solving groups, they make sure students know how to work cooperatively and that the assignment is clearly understood. Then they monitor group process to ensure students are successful in carrying out their assignment.

Phase III: Maintaining Good Discipline

Once the school year is under way and positive student social and academic norms have been established, the teacher must seek to maintain these norms. In this phase, the teachers' role shifts toward keeping high levels of student engagement and preventing disruptions of the learning environment. Emmer (1987) divides this phase into two key areas:

1. Monitoring and handling inappropriate behavior. Effective teachers are good managers who do not ignore large amounts of inappropriate behavior. They monitor classroom norms continuously, stopping and then redirecting incidents of unacceptable behavior in a prompt and timely manner. However, these teachers are not negative or sarcastic toward student misbehavior and they respond in ways that do not call attention to the problem at hand. For example, when a student is observed off task, the teacher moves closer to the student, but says nothing as an alternative to verbally reprimanding the student. Darci

Shane teaches in a single-room school in eastern Montana and uses several strategies to keep students on task. Shane says that when kids run out of things to do, they are likely to disturb others. To avoid this situation, she keeps a running list of "things to do when your work is finished." Students are encouraged to add ideas to the list. Some of the activities on her list include:

Reading Ranger Rick or World magazine
Listening to tapes
Free reading: encyclopedias, library books, etc.
Looking up words in the dictionary
Help the teacher
Journal writing
Write a pen-pal
Read to a younger student

Another strategy Shane uses to keep students meaningfully engaged involves the use of popsickle sticks. "This last year I had a couple boys that were pretty rambunctious so I got popsickle sticks and everybody had different colors with their names on them. They each had five in their desk and if they were off task doing what they were not supposed to be doing, I would just say put a stick on my desk. At the end of the week a report would go home to the parents." She said this strategy was easy to use and worked pretty well.

2. Organizing and conducting learning activities. Activities that are well planned, clearly sequenced and presented, and provide for high levels of student success tend to produce a high degree of student engagement. When students are actively learning, they are less likely to become involved in inappropriate behavior. Effective teachers also organize the learning environment to reduce the amount of influences that can disrupt the flow of instruction whether in teacher-led groups, small workgroups, or during independent seatwork.

The remaining information in this chapter has been divided into five parts, each one focusing on a different aspect of classroom management:

- Organizing your classroom and the materials in it
- Organizing your activities in the classroom
- Organizing student activities
- Establishing rules and procedures
- A classroom guide for planning rules and procedures

Organizing Your Classroom and the Materials in It

Clear guidelines and procedures are necessary from the time the students walk through the door in the morning until they pick up their jackets and leave for

home. (See Chapter 2, Classroom Organization, for additional information on planning your classroom.)

Storing Personal Belongings

Experienced teachers use a variety of techniques for helping students organize their materials. Depending on the availability of materials and space, the following ideas have been useful:

- Use shelf space and divide it so that each student has an assigned section or cubbyhole for their materials.
- Provide a plastic tub or wooden tote box for each student. If these containers are uniform in size, they can easily be stacked and stored on shelves, windowsills, above coat hooks, etc., and students can take them along as they move to different areas in the room. (A subtle advantage found by some teachers using this system is that they can easily take attendance by looking on the shelves, windowsills, etc., to see which tote boxes are left.)
- Students decorate large ice cream containers which serve as cubbies. They can be lined up along a wall, on a shelf, etc.
- Use fruit boxes as storage containers by stacking them on their sides. Students can share if space is limited.
- Provide students with folders or binders to keep assignments in.
- Make a bound book containing six or eight file folder pockets. To make the booklet, staple five folders together. Tape the bottom and part of the side of each folder to make separate pockets. Each student could have a booklet.
- Have a place for completed assignments.
- Have a place for lost papers.

The General Classroom: Curriculum Materials and Supplies

Many different approaches have been used by teachers for storing and locating instructional materials. In the multigrade classroom it is important that these materials be located and labeled so that students can function independently of the teacher. Often, in classrooms organized for individualized instruction,

teachers organize materials into resource centers. The following ideas have been used successfully (Westinghouse Learning Corporation, 1973):

- Locate all materials relating to a particular subject in one area of the room. Then, whenever a child wants to work on math, for example, he will know to go to the math center. This system has several management offshoots. If the children work in specific subject areas in the classroom, then it is easier for them to find partners and it is also easier for the teacher to keep track of who is working on what subjects.

- Divide the classroom into functional areas: a quiet study area, a place for partner work, a place to have discussions, and a place to use A.V. equipment. Have specific subject resource centers and then divide the areas by function. For example, have partner and group discussion space in the science and social studies area; have individual and quiet study space in the mathematics and reading centers. (For a visual example of a classroom, see Chapter 2, Classroom Organization).

- Hang labeled and color coded mobiles in each area. A quiet study area could have a sign hanging above the area saying, "QUIET STUDY AREA." Under the area name, rules for the area could be listed: "whisper voice only" or "no talking please." For a subject area, a sign could say, "Social Studies Resources" or "Art Area."

The students often enjoy making these mobiles themselves. Some teachers have small groups of children make the mobiles as an art activity during the first few days of school. It is an easy way to involve students in setting up the room or area. In addition, clear labeling can reduce the demands student make on teachers for help.

- Make a quiet area for reading, thinking, and resting. This may be a rug in the corner, a beanbag chair, a cardboard house, etc.

- Make an art or project area.

- Provide a special place where students can learn of new individual assignments. This might be a bulletin board tree where students can find any new individual assignments written on 4 X 5 cards and pinned on the limbs. Library pockets glued on the outside of a file folder have also been used.

- Put library card pockets or hand-made construction paper pockets on large oaktag board or cork board. Student names on the outside of the pockets make refiling easier.

- Have a series of file boxes that are organized by grade or level that contain work assignment folders for each student.

Students working independently must know what to do with the completed assignments. Otherwise, the teacher will be handed a variety of projects all day long.

- Have boxes or file cabinets at the teacher center. Color code or label each compartment to correspond with different subjects.

- Specify a cubby or tote box for completed assignments or projects.

- Each student could have a folder at the teacher center. When a child completes an assignment, he could put it in his folder and leave the folder in a specified place, depending on what he was going to do next. Bill Radtke, a multigrade teacher from English Bay, Alaska, has developed a system for student assignments. Bill says:

  > I use a one drawer cabinet, a fruit box would do fine, and put a file in for each subject area in math, science, English, and social studies. Students then put every assignment into the file. Each night all files are corrected and papers are placed in an out basket. The students can then pick up their corrected work the next morning. Bill strongly believes that promptly returning corrected assignments is critically important for student success.

- Call students together frequently during the first weeks of school to talk about the advantages of keeping materials organized so that people can find things easily when they want them. Reinforce students for keeping their materials and room areas organized.

- Involve students in the organization of the art and activity centers, subject matter shelves, etc. If they help set things up, they are more likely to keep them organized.

- Make up a game which involves points, fun activities, or something your students will like. Give them a score whenever materials areas are especially well taken care of. For example, many teachers have found that students enjoy being read to and they use this as a reinforcement throughout the year. Intermediate students can get involved in mysteries, some of the classics, etc.

- Devise a system for sending complete assignments home. Some teachers attach a ditto such as the following to ensure that the assignment gets home and is discussed:

Student's Name_____Subject_____

Assignment _____ Start Date_____Finish Date_____

Comments:

Teacher's Signature

Parent's Signature

Student's Signature

- Elect or select student helpers who would be responsible for certain sections of the room. Rotate these helpers periodically. It is also helpful to schedule clean-up times and post the schedule. Some teachers use card pocket charts that are labeled with the different areas or helper roles in the classroom. Cards with student names are placed in each pocket. Helpers are often rotated weekly.

  Linda Pelroy from Arock, Oregon, uses helpers extensively in her multigrade classroom. She submitted the following job chart with a description of each helper role:

JOB CHART

W.W. Jones Cowhand Helpers

Flag.....Elisa Eiguren
Calendar.....Tony Barrett
Librarian.....Chris Henry
Line Leader.....Sam Stoddart
Caller.....Katie Larruesea
Boards.....Bobby Grenke
Equipment.....Troy Lequerica
Floors.....Harold Largent
Books.....Heather Pelroy
Papers.....Angelica Benites
Erasers.....Chris Dent
Computer.....Raime Lequerica

Descriptions:

Flag	Student goes to the front of room and says, "Flag Salute, Please Stand. Ready Begin."
Calendar	Student tells what yesterday was, what today is and what tomorrow will be. Example: Yesterday was Tuesday, May 16, 1989. Today is Wednesday, May 17, 1989. Tomorrow will be Thursday, May 18, 1989.
Librarian	Checks out books to students and reads a book to others during Story Time.
Line Leader	This student receives the privilege of being first in "Line" this week.
Caller	This student, at recess time, looks to see who is sitting quietly and orderly and calls them by name to line up at the door.
Boards	Student erases everything on the board at the end of the day.
Equipment	Student makes sure that all equipment has been picked up from inside and outside before leaving for home each day.
Floors	Student makes sure that the floor is clear of paper and trash.
Books	Student passes corrected books back to the students each morning.
Papers	Student passes corrected Morning Work Papers back to the students each morning.
Erasers	Student takes erasers out and dusts them off outside and brings them back and puts them in the right places.
Computer	Student copies given list onto computer board each day for that week. Student also makes sure the computer is covered up each day and that the screen is clean for the next day.

Organizing Teacher Activities in the Classroom

All teacher managerial activities require time. When that time is taken from instruction, then students suffer. A common example is when the teacher takes attendance while students wait. Another common example, especially important in

the multigrade classroom, occurs when individual students need help while the teacher is engaged in instruction with another student or a small group. Without a procedure for managing this incidental help, instructional time can be seriously disrupted.

Attendance and Other Managerial Procedures

Keeping daily attendance and the morning lunch count are generally a requirement in most schools. Depending on the number of students, these can take up a small amount of time each day. Several suggestions follow that may increase teacher efficiency:

- Prepare a dittoed class list. Students complete their own attendance sheet by drawing a self-portrait or making a check on the space by their name. For lunch count, students could mark an appropriate "yes" box for hot lunch or milk.
- If tote boxes are used, look at the names on boxes left on the shelf. These students should make up the absentee list.
- Set up an attendance lunch count board or pocket chart. Students remove their names as they come in. Students whose names are left should make up the absentee list.

An especially promising strategy for protecting instructional time during attendance and related managerial duties was submitted during the multigrade conference by Troy Smith, a multigrade teacher from Dixie, Washington. Smith calls his strategy, "Entry Task." When students first enter the classroom in the morning, after lunch, or any other time, they encounter an "entry task" written on the board. Troy describes the value, purpose, and procedures for the "entry task:"

> Entry task is used to develop a mind set and to maximize the use of time in the classroom. It quickly gets the students ready to enter the learning environment. An entry task has many uses. It can review or help teach a skill.
>
> When students arrive at school or come in from recess an entry task notebook is waiting on their desk. The entry task is on the chalkboard ready for the students to begin. They write the date and copy the problems. I usually have an entry task for each grade or group, but sometimes I have

one for the entire class. I may include challenge problems on the board for advanced students. The students know the routine and begin to work immediately. Most of the time an entry task takes about five minutes thus freeing the teacher for classroom routines such as lunch count.

The before school entry task is math. I will use review problems because I have found that my students have performed better in math with extra skill review throughout the year. I also use a commercial product called Daily Oral Language after recess. The students are given sentences, addresses, and letters written with mistakes. The students make the corrections. Usually I select a student to make the correction on the board. Students then correct their own work. I collect their notebooks every week or so to check their progress.

There are many different types of entry tasks. Some possibilities include:

math problems
thinking skills
language
geography
silent reading
journal writing

Daily Announcements

In the morning before beginning instruction, some teachers set aside time for making announcements regarding the day's activities and special events. Announcements could be used to facilitate discussion or develop oral language skills if students are invited to become involved. Several examples that might be used are:

- Schedule a daily class meeting sometime during the day. All general classroom business is discussed at this time.
- Post information or write messages on a special area of the chalkboard.

Student Strategies for Obtaining Help

One of the problems that multigrade teachers face is providing individual help for students while the teacher is engaged in tutoring or small group instruction. A successful technique is to develop procedures that clearly spell out what is expected when one needs help and the teacher is busy. These are called help

systems. Students need to understand that not being able to get immediate attention from the teacher is not an excuse to do nothing. Using a help system can reduce student dependency on the teacher and help build self-direction in students. Several help strategies have been found to be useful:

- Have students use a sign up system for help which enables them to be specific about the type of help needed. For example, you could have three areas on the chalkboard:

Assignments Completed	Need Materials	Don't Understand	Bathroom

  Or you could ditto up similar forms and keep them at the teacher center or on a bulletin board. By using this format, you can plan your time to meet tutoring needs at the opportune moment.

- Colored cones can be used to signal for help. The student puts a red cone in front of him and continues to work until you come to help. Different colors could stand for a different problem (materials request, not understanding, etc.)

- Secure a two-colored tag to each desk or table. One side of the tag means "progressing alone" and the other says, "help needed"; or one color indicates an immediate need while the other color indicates a tutoring need which could be temporarily postponed.

- Larger two-colored cards may be placed flat on the desks or in a folded "tepee" shape. When the student needs help the teacher can see this cue when scanning the room. Different colors can be used to indicate the need for varying types of assistance.

- Use a card file system for locating peer tutors. File the students' names under the Subject Area on which they will tutor. Students who are to be "mini-teachers" should be asked to rehearse their methods of tutoring with you. They should understand that a tutor stresses the use of questioning (in contrast to telling), the use of diagrams or manipulative materials, and the use of verbal praise. Ask potential student tutors to observe one of your tutoring sessions after they have discussed tutoring techniques. (See Chapter 7, Planning and Using Peer Tutoring.)

  Robin Lovec who teaches in a one-room school in Montana uses a help strategy called the "helping hand." She has an outline of a hand with a magnet on the back. In the center of the hand she places a

picture of the helping student for that day. The hand is placed in a central location in the room. Students needing help would go to the person whose picture was on the helping hand. Robin said she developed this strategy so her prereading students could get help with written instruction without disturbing the teacher.

Organizing Student Activities

One goal for students in the multigrade classroom is that they become involved in selecting and managing their own educational experiences. Successful multigrade teachers have found it critically important that students learn to manage their own time, make decisions, and evaluate what's been happening to them. Students who successfully manage their time tend to:

- Bring only essential things to school
- Clean out cubicles, lockers, or tote boxes once a week
- Keep multigrade papers in a binder or folder
- Use a planning schedule to help you keep track of what to do

Guide For Students

It is critically important to establish clear expectations for students if your class is to be successfully managed. Students need to know what you expect in simple, but direct terms. In developing a set of guidelines for students, you may wish to involve them. This will help to develop student understanding, motivation and ownership. However, it is essential that once a list is set up, that students are taught the rules and then systematically monitored to determine how well they are working.

When developing a list of classroom rules, it is helpful to begin with one's beliefs or principles about classroom behavior. The examples of behavior principles that follow can serve as guidelines for developing a set of classroom rules. By asking students to describe what each principle might look like in terms of action, the teacher can develop a set of specific classroom rules. There are several

advantages to this. First, by involving students, the teacher can develop a sense of student ownership. Second, by starting with a set of principles, the teacher can ensure that the rules reflect teacher values.

Two sets of classroom rules are presented that represent different orientation to classroom life. Set A reflects a generic list of rules a teacher might wish to use for multigrade students while Set B focuses on rules developed to specifically foster cooperative learning workgroups.

EXAMPLES OF BEHAVIOR PRINCIPLES

- **BE RESPECTFUL**
- **BE COURTEOUS**
- **BE PREPARED**
- **TREAT OTHERS AS YOU WISH TO BE TREATED**
- **TRY YOUR BEST AT ALL TIMES**

SET A. CLASSROOM RULES

- **FOLLOW DIRECTIONS**
- **COMPLETE ALL ASSIGNMENTS**
- **DO NOT LEAVE THE CLASSROOM WITHOUT PERMISSION**
- **KEEP HANDS, FEET, AND OBJECTS TO ONESELF**
- **BE COOPERATIVE AND HELPFUL TO OTHERS**

SET B: RULES FOR A COOPERATIVE LEARNING CLASSROOM

INDIVIDUAL RESPONSIBILITY

I Am Responsible for:

Trying *Improvement Counts*

Asking *Requesting help, clarification from teammates*

Helping *Teammates, classmates, the teacher*

Filling Different Roles

a) *checker* (checking for understanding, for agreement)
b) *praiser/encourager* (praising effort, ideas, help, roles)
c) *recorder* (recording ideas, decisions, processing, products)
d) *taskmaster* (bringing us back to the task)
e) *gatekeeper* (all participate; no bully, no loafer)
f) *gofer* (get materials, books, pencil sharpening)
g) *reporter* (sharing with other teams, class, teacher)

TEAM RESPONSIBILITY

We are responsible for:

Solving *our own problems*

Team Questions *only*

Consulting *with other teams and the teacher*

Helping *teammates, other teams, the teacher (if asked)*

Inner Voice *heard by teammates but not classmates*

Quiet Signal:

a) Hand up, stop talking, stop doing
b) Eyes on the teacher
c) Signal teammates
d) Signal other teams
e) Listen (adapted from Kagan, 1989, 9:2)

Establishing Procedures and Rules in Your Classroom

Careful attention to planning and the carrying out of plans will make important differences in student learning. Observations of effective teachers have produced accounts of what these teachers do in managing their classrooms. Table 1 and the following set of guidelines for planning procedures and rules for the classroom are designed to be used together. In Table 1, the results of five experimental studies on classroom management are presented. Only those variables that were measured and demonstrated statistically significant differences in two or more studies have been included. This table provides an overview of general areas of classroom management worth considering when planning for instruction. Table 1 and the Guidelines for Planning Procedures and Rules for the Classroom are presented on the following pages.

TABLE 1. RESULTS FROM EXPERIMENTAL STUDIES ON CLASSROOM MANAGEMENT PROCEDURES

Independent Variables

I. Readying the Classroom
- a. Classroom ready for school

II. Planning Rules and Procedures
- a. Efficient administrative routines
- b. Uses appropriate general procedures

III. Consequences
- a. Teacher rewards appropriate behavior
- b. Consistent management of behavior

IV. Teacher Rules and Procedures (first week)
- a. Signals appropriate behavior
- b. Presents, reviews, and discusses rules and procedures
- c. Presents rationales and explanation for rules and procedures
- d. Rehearsal practice included in presentation
- e. Teaches rules and procedures well: presentation, review, correctives, reminders

V. Monitoring Procedures
- a. Effective monitoring
- b. Effectively monitors transitions

VI. Stopping Inappropriate Behavior
- a. Stops disruptive behavior quickly
- b. Stops inappropriate behavior quickly
- c. High percent of students on task

VII. Organizing Instruction
- a. Attention span considered in lesson
- b. Student success in class lessons
- c. Appropriate pacing
- d. Low amount of dead time
- e. Encourages student analysis

VIII. Student Accountability
- a. Teacher monitors student understanding
- b. Consistently enforces work standards
- c. Suitable routines for checking and collecting work
- d. Maintains student responsibility for work
- e. Monitors progress in completing assignments
- f. Task-oriented focus
- g. Teacher plans enough work for students
- h. Lessons are at a suitable level of difficulty

IX. Instructional Clarity
- a. Describes objectives clearly
- b. Clear directions
- c. Clear expectations and presentations
- d. Checks student understanding during directions

(adapted from School Improvement Program, 1987)

GUIDELINES FOR PLANNING PROCEDURES AND RULES FOR THE CLASSROOM

Questions to Ask Yourself	Your Planning Notes

I. Inside the Classroom Procedures

A. Desks, Tables, and Storage

1. What are your expectations regarding the use of chairs and desks?	1.
2. If students use tote trays for materials, what rules are needed for when and how these areas are to be used?	2.
3. What standards do you want to establish about upkeep of desks and storage areas?	3.

B. Learning and Activity Centers

1. How many students will be allowed in each area?	1.
2. What rules and procedures will you establish for the care and use of materials?	2.

3. What rules will students be expected to follow for each center in the classroom?	3.
4. What guidelines do you want to establish for when students can use the centers?	4.
5. How will students know what the rules and procedures are?	5.

C. Student Resources Areas: Materials, Books, and Supplies

1. What are student responsibilities for taking care of these items?	1.
2. What rules need to be established for when and how these areas will be used?	2.

D. Teacher Resource Center (Desk Area)

1. What rules do you want to establish regarding teacher resources? Your desk area?	1.

E. Drinking Fountain, Sink, Pencil Sharpener, and Bathroom

1. How many students can be in these areas at a time?	1.
2. What rules do you want to establish concerning when and how these areas are to be used?	2.
3. What cleanliness standards for the bathroom will you set in order to ensure it is kept clean?	3.

II. Procedures for Other Areas of the School

A. Outside the Classroom Area: Bathrooms, Office, Library

1. When and how will students have access to these areas?	1.

2. How will students be monitored?	2.
3. How will students behave in these areas? Getting to and from them?	3.
4. What procedures will you establish for lining up and going places as a group (e.g., recess, lunch, etc.)?	4.
5. What safety rules do you need to establish for the playground and equipment?	5.
6. What standards will be established for eating lunch (e.g., manners, noise level, behavior, etc.)?	6.

III. Procedures During Whole Class Activities and Seatwork

A. Student Participation in Class Discussion

1. How and when do you wish students to address questions and responses (e.g., raising hands, calling out, etc.)?	1.

B. Cues or Signals for Getting Students' Attention

1. How will you signal or cue the class when you want everyone's attention (e.g., blinking lights, hand signal, bell, etc.)?	1.

C. Talk Among Students

1. What do you expect and desire about noise level?	1.
2. What cue or signal will you use to let students know the noise level is unacceptable?	2.
3. What procedures and guidelines will you establish for students working together?	3.

D. Making Assignments

1. How will students know what their assignments are?	1.

2. When and how will you give instructions for assignments?	2.
3. How will you monitor progress on assignments?	3.

E. Passing Out Books, Materials, Supplies

1. How will students obtain the materials they need for assignments?	1.
2. Will there be materials that will need to be passed out? What types?	2.
3. Who will pass them out and when will they be passed out?	3.
4. What will students be doing when materials are being passed out?	4.

F. Students Correcting and Turning In Work

1. How will assignments get corrected? Will students have access to answer keys?	1.
2. What procedures will you have for turning in assignments? Consider where and when?	2.
3. What rules will you have for turning work in to you while you are engaged in instruction with individuals or small groups?	3.
4. How will you keep track of work completed and turned in?	4.

G. Handing Back Assignments

1. How quickly will assignments be returned?	1.

2. What procedure will you use for returning work?	2.

H. Makeup Work

1. How will you monitor who misses instruction and assignments?	1.
2. How and when do you plan to have makeup work completed?	2.

I. Out-of-Seat Guidelines

1. For what reasons can students leave their seats during teacher directed instruction?	1.
2. For what reasons can students leave their seats during seatwork?	2.

J. What to do When Seatwork is Finished

1. What activities are acceptable to do when all work is finished?	1.
2. What procedures will be needed for using extra materials and supplies (e.g., reading books, art supplies, games, etc.)?	2.
3. Will students be allowed to work together and, if so, what will be your guidelines?	3.

IV. Procedures During Small Groups

A. Movement Into and Out of Groups

1. How will students know when to come to their groups?	1.
2. What procedures, rules, and teacher signals (cues) will need to be taught to students regarding movement to and from small groups?	2.

3. What will students do with materials used prior to coming to a group?

3.

B. Bringing Materials to the Group

1. What materials or supplies should students bring or not bring to the group and how will you explain this beforehand?

1.

C. Expected Behavior in Small Groups

1. How and when can students ask questions and give responses?

1.

2. What expectations do you have for how students are to work together and how will you convey your expectations so students learn these?

2.

D. Expected Behavior of Students Not Meeting in a Group with the Teacher

1. What will the rest of the class be doing while you are meeting with a small group that will reduce its need for you?

1.

2. What will you expect regarding noise level and student access to you?

2.

3. How will students learn your expectations regarding behavior when not in a teacher group (e.g., getting help, noise, leaving the room, etc.)?

3.

V. Other Procedures that must be Considered

A. Beginning the School Day

1. What routines do you plan to establish for opening each school day?

   Attendance? Date?
   Lunch count? Sharing?
   Days schedule? Special Events?

1.

2. What constraints will affect these routines (e.g., student arrival times)?

2.

B. End of School

1. What routines will be established for ending the day?

Homework? Positive feedback?
Stacking chairs? Cleaning?

1.

2. Will you use a system of student helpers? What constraints should be considered (e.g. leaving school early)?	2.
3. What standards will you set for student helpers in carrying out their roles?	3.
4. What consequences and rewards will you use for student helpers?	4.

(adapted from Evertson et al., 1981, pp 28-55)

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Canter, L. (1989). Assertive discipline. Los Angeles: Canter and Associates Inc.

Lee Canter has popularized an approach to classroom discipline called assertive discipline. His program provides detailed training materials, including lesson plan books, charts, sample rules and consequences, and specific ideas for rewarding positive behavior.

Available from: Canter and Associates Inc.
P.O. Box 64517
Los Angeles, CA 90064
Price: $7.95

Curwin, R. and Mendler, A. (1988). Discipline with dignity. Alexandria, VA: ASCD

This book presents research-based processes and strategies for developing positive classroom behavior. It begins by focusing on the dignity of the student and recasts the teacher from being a "policeman" to being an individual who mediates learning. Excellent sets of guidelines, observations instruments, and resources are included.

Available from: Association for Supervision and Curriculum Development
Alexandria, Virginia
Price: $9.95

Evertson, C., Emmer, E., Clements, B., Sanford, J., and Worsham, M. (1989). Classroom management for elementary teachers. Englewood Cliffs: Prentice-Hall, Inc.

This "how-to" guide provides research-based step-by-step activities and principles for planning and organizing the elementary classroom.

Available from: Prentice Hall, Inc.
9W, Englewood Cliffs, NJ
Price: $17.95 (paper)

Grossnickle, D., and Sesko, F. (1985). Promoting effective discipline in school and classroom: A practitioner's perspective. Reston, Virginia: NASSP.

This monograph describes how to develop a comprehensive discipline program, including many models that can be easily adapted and used.

Available from: National Association of Secondary School Principals
1904 Association Drive
Reston, VA 22091
Price: $6.00 (paper)

Kagan, Spencer. (1989). Cooperative learning: Resources for teachers. San Juan Capistrano, CA: Resources for Teachers.

This resource provides detailed guidelines for planning and implementing cooperative learning in the classroom. Included are references and sample classroom management guidelines.

Available from: Resources for Teachers
27134 Paseo Espada #202
San Juan Capistrano, CA 92675
Price: $20.00

"You have to be organized. I was lucky when I first started teaching. I was with another teacher who had taught in rural schools. If I had gone into the school and been the only teacher, I am sure I would have been really lost. But that helped because she seemed to be really organized. You need to have a schedule and know exactly what you're going to be doing and when you're going to do it. The kids don't have to be that scheduled, but you do ... Have time fillers (and) independent activities for the kids to work on when they are not working with you."

– Darci Shane
multigrade teacher

Chapter 4

Instructional Organization and Curriculum

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INSTRUCTIONAL ORGANIZATION AND CURRICULUM

There is greater diversity of achievement and developmental levels in the multigrade classroom than in the typical single-grade classroom. This diversity creates a greater demand on teacher time. Therefore, teachers often find themselves having to rely more on students to work independently and to help one another than the single-grade teacher. This means that students need to be self-directed, motivated and responsible learners. They need to be able to help one another, set and complete learning goals, follow teacher directions and keep on task with a minimum of teacher supervision. Observations of effective multigrade classrooms demonstrate that student behaviors such as independence, cooperation and self-direction are essential for instructional success. Interestingly, a body of research evidence suggests that student self-esteem and achievement are enhanced by classrooms which facilitate the development of these behaviors (Cohen, 1986).

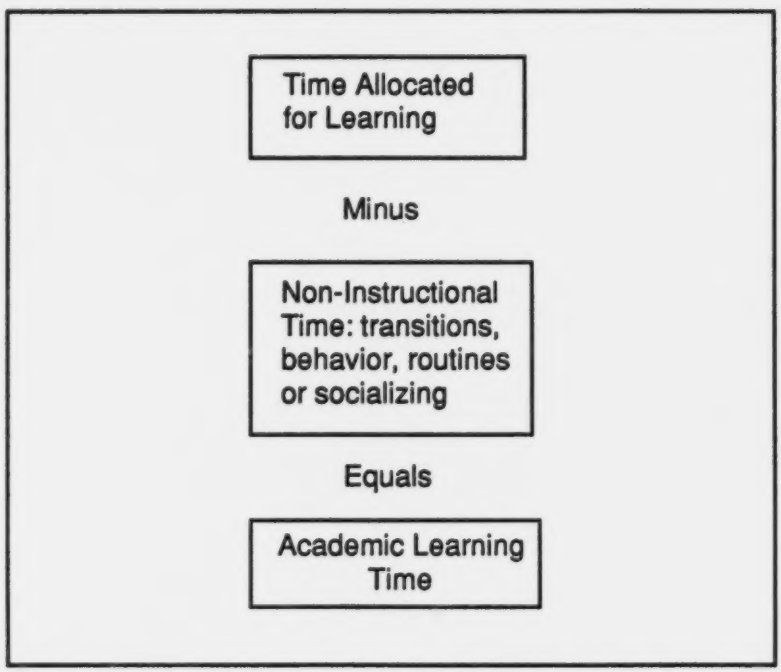
Research on instructional organization and curriculum is immense, and no attempt will be made to review the entire body of material. Instead, several models of instructional organization and how they impact on student performance will be introduced. These models will aid in analyzing how to organize classroom instruction and the effect of this instruction on students. In addition, issues relating to scheduling instruction and sequencing curriculum will be presented.

Time and Achievement in the Classroom

Research has demonstrated that the time students spend engaged in learning relates to how much they learn. However, the factors which affect learning time are seldom viewed systematically. For example, how often have you sat down and figured how much time is actually spent on instruction and how much time involves transitions, disruptions and management? Figure 1 provides an

illustration of this question. For example, to determine the actual amount of time devoted to math instruction, a teacher would deduct from the math period the time spent for non-instructional activities such as taking role, lunch count, finding papers, passing out books, etc. What is left over is actual math learning time.

FIGURE 1. FORMULA FOR DETERMINING ACTUAL LEARNING TIME



Goodlad and his colleagues, in their observation of more than 1,000 classrooms, documented that about 70 percent of class time is spent on instruction. Of the remaining time, about 20 percent is spent on classroom routines, 5 percent on behavior and 3 percent on social activities (these figures vary with the grade level). These findings are not surprising. However, the variation across schools was substantial: 63 percent to 79 percent at the lower elementary and 63 percent to 84 percent at the upper elementary. This means that the amount of learning a student achieves depends a great deal on the school he or she attends. When

Goodlad's data is broken down by subject area and type of instructional activity, the picture is quite dismal.

Table 1 provides an overview of the dominant instructional activities occurring at the elementary level, demonstrating that in traditional single-grade classrooms, instructional activities are dominated by seatwork and teacher talk, with little interactive learning (Goodlad, 1986).

TABLE I. AVERAGED OBSERVATION DATA ON STUDENT ACTIVITIES AT THE ELEMENTARY LEVEL

Activity	% of total time
Written Work	29.35
Listening to Explanation/Lectures	19.50
Preparation for Assignments	12.70
Reading	5.75
Discussion	4.39
Watching Demonstrations	1.96

(p. 199)

Reading here represents the amount of time students spent outside traditional "round robin" reading groups. Clearly, students spend very little time practicing reading outside the context of textbook instruction. This was also the case with writing. Students were seldom observed actually engaged in the composing process. Most written work related to completion of workbook and textbook related assignments. However, the time allocated for the basic skills areas of language arts/English and math was more encouraging. On the average, Goodlad found that 1.59 hours a day is spent on reading and language arts instruction and about one hour a day on math. But the amount of allocated instructional time only tells part of the story. A more important consideration is the

actual time students are effectively engaged in learning (i.e. effective learning time).

Karweit (1987) provides an excellent model for understanding effective learning time. Figure 2 depicts effective learning time as a formula incorporating three key instructional elements: learning time (the actual time used for instruction); quality of instruction (teacher effort and the appropriateness of curriculum and method); and student engagement (student effort and motivation).

FIGURE 2. FORMULA FOR DETERMINING EFFECTIVE LEARNING TIME

Learning Time	X	Quality of Instruction	X	Student Engagement	=	Effective Learning Time
60 minutes of math instruction	X	50% of the time instruction is appropriate	X	90% of the time the student is engaged	=	27 minutes effective learning time

In the example presented in Figure 2, it can be seen that this particular student has an effective learning time of approximately 27 minutes (45 percent efficiency). If one thinks about teaching a group of 20 students, ranging in ability across three grade levels, then those students who receive instruction appropriate to their level of ability will spend the most time effectively engaged. However, for those students outside the target range of instruction, minimal desired learning will take place because the quality of instruction and student engagement are barely appropriate. This is often the case when basic skills are taught to an entire class when there is a wide range of student ability levels. In such a situation it is likely that students outside the range of instruction (high and low performing students) will not be motivated to learn and may even become disruptive, causing classroom

management and discipline problems -- further reducing effective learning time. In the multigrade classroom, teachers have successfully dealt with this problem by tailoring assignments to match the unique needs of each student and grouping students where common needs have been identified.

Summary and Implications

Time is a crucial element in student learning, but time alone does not produce learning. In this chapter, a formula was described for determining the amount of learning time (allocated time minus non-instructional time) and a model was presented for understanding the key dimensions of effective learning time (learning time X instructional quality X student effort).

How can this information be used to improve student learning? There are several planning issues where this information can be beneficial. First, if you want to improve student learning, there are three target areas for impacting change: use of time, quality of instruction and student effort and motivation. In this chapter, attention was focused on the use of time. Secondly, using the information on time allocation, you can develop a schedule to ensure that instructional priorities are met. There are three general steps to consider in developing an instructional schedule:

1. Determine how much time is available for instruction (amount of time students are in school minus non-instructional activities).

number of minutes students are in school	360
minus lunch time	-40
	320
minus recess and break time	-30
	290
minus dismissal/ room duty time	-15
Available Instructional Minutes	275

2. Decide on instructional priorities and allocate the available time accordingly. There are several sources to consider in determining priorities: the needs of students, research evidence, governmental departments of education and school board policy. The example that follows is based on elementary school data taken from more than 600 schools (Goodlad, 1986).

Subject	Minutes Weekly (hours)
English/language arts	666 (11.1)
Mathematics	230 (3.83)
Social Studies	120 (2.00)
Science	100 (1.67)
Art, Music, Drama, P.E., etc.	260 (4.33)
Total Time	275 (4.58)

3. Schedule instruction according to the time allocation for each curriculum area. The sample schedules that follow reflect two different approaches to scheduling. Schedule A describes the school day in terms of the time devoted to each grade and for each subject being taught. Schedule B, on the other hand, focuses on activities and uses much larger blocks of time.

It is important to remember that establishing a schedule for a multigrade classroom is a very personal process that reflects the experience and training of the teacher and the unique needs of students. There is no "best" schedule. As members of the multigrade conference group on instructional organization point out, "Teachers have many different styles for establishing a schedule. It's what works best for you [and the students], and remember, it's ok to change as you learn yourself . . . most great teachers learn from mistakes." The two sample schedules that follow will provide you with two models to follow. Change or modify them to fit your own unique situation.

MULTIGRADE SCHEDULE A FOR GRADES 1 - 3

9:00	Job chart, Flag Salute, Calendar, Sharing, Questions Box and Vocabulary
9:20	Sustained Silent Reading (SSR) or Art
9:40	Pass out papers and books. Correct and return assignments
9:50	Math: Total group lesson presentation and assignments given
10:10	Daily Oral Language (D.O.L.)
10:20	English (Mon., Wed., Fri.) and Music (Tues. and Thurs.)
10:40	Recess . . . Language Game
10:50	Morning Work (all students review previously taught concepts)
11:00	Computer time begins (A schedule is posted, giving each student 10 min.)
11:05	Reading group 1 meets with the teacher. The remaining students work independently on Morning Work or on the computer. If students have problems, they seek help from another student or go on to their next assignment.
11:25	Reading Group 2
11:45	Reading Group 3
12:00	Lunch . . . Language Game
12:45	Story or Film
1:00	Spelling: Total group instruction with individual work assignments
1:20	Handwriting: Total group instruction with individual work assignments
1:40	Physical education with the total group
2:00	Science with total group (Mon. and Wed.)
--	Social Studies with total group (Tues. and Thurs.)
--	Health with total group (Fri.)
2:30	Dismissal

This schedule was developed and by Linda Pelroy, a multigrade teacher from Arock, Oregon. It reflects a schedule structured around specific subject areas.

In this classroom, Pelory meets with different grade levels in small groups for reading while the remaining students are assigned independent or groupwork tasks. For most other academic subjects, instruction begins with the total group and ends with appropriate individual assignments. An especially important element in this schedule is that students know what will occur during the day.

MULTIGRADE SCHEDULE B FOR GRADES 1-8

	SUBJECT	PURPOSE	ACTIVITIES
9:00 (30)	Introductory activities	Beginning the day together Building up a favorable working tone	Planning the day's work: singing, music, news, health, poetry
9:30 (65)	Learning center of choice Developmental period	Intellectual and social development Practice language skills	Free choice activities: center of interest in social studies, science or health. Language through discussion and presentation.
10:35 (15)	RECESS/BREAK		
10:50 (60)	Language	Formal and informal instruction in language	Instructional reading and reading activities, language activities and language skills: spelling, handwriting, and printing
11:50 (40)	LUNCH		
12:30 (50)	Mathematics	Improvement of math skills	Whole-class, group or independent work
1:20 (20)	Physical Education		
1:40 (15)	RECESS/BREAK		
1:55 (50)	Social studies, science, health, art, drama, language, sport, gardening	Enlarging students' experiences in social studies, science, health, or the arts	Topics may be integrated (or not), with emphasis on individual research and discussion. (making notes, records or charts, etc., could be done in "center of interest")
2:45 (15)	ROOM DUTY/CLEAN UP		

(Wellington, 1977)

When developing a schedule, several points should be kept in mind:

1. Schedules need to be displayed clearly so they will be understood by students.
2. Provide sufficient time for working with each maturity level (for e.g. primary grade, middle grade, etc.).
3. Ensure curriculum areas of high priority receive adequate time.
4. Organization is simplest if all grades work on the same subject at the same time (at least initially as the teacher learns what best meets the needs of students).
5. In general, a schedule or routine should make the daily and weekly instructional activities as predictable as possible for students.
6. Don't confuse daily schedules with weekly schedules. Be flexible.

Once instructional priorities are determined and scheduled, it is imperative to focus on what Karweit (1987) has described as instructional quality (teacher effort and the appropriateness of curriculum and method) and student engagement (student effort and motivation). In the remaining portions of this chapter, issues surrounding instructional quality and student effort will be discussed, paying close attention to how student effort, motivation and self-perceptions of ability are impacted by the choices teachers make regarding learning activities and student evaluation. In addition, the subtle ways students are reinforced by the social and academic structure of learning will be discussed.

Instructional Quality and Student Effort

If we had an ideal classroom, where all students function at the same achievement level and exert a similar amount of effort, it would be easier for the teacher to effectively instruct all students at the same time with similar strategies and materials. However, in the real world, students vary considerably within most single-grade classrooms and teachers are forced by necessity to deal with different ability levels. In the multigrade environment, differences in ability are even more

pronounced, requiring increased planning and organization. The most common strategies for handling differences in ability are whole-class instruction (where differences may often be ignored), ability grouping (where differences often become institutionalized) and pull-out programs (where students are removed from their regular classroom for specific subjects). The research evidence to date suggests that these methods are not necessarily effective, especially for low achieving students (Slavin, 1986).

Student Effort

Student effort relates to the amount of perseverance and commitment a student brings to a learning task. In the typical American school, students begin in the primary grades believing that their performance and ability are a direct result of their effort. One can imagine a kindergartner responding to a task not completed accurately by saying, "That did not work too good, I will try again."

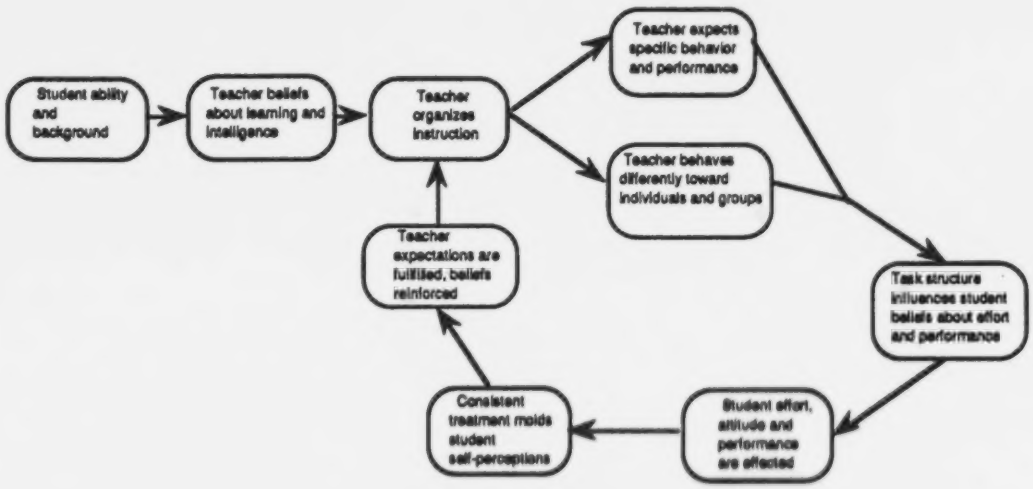
By the time a student is about in the sixth grade, effort, performance and ability become reversed so that students believe ability is a capacity which affects effort and performance. Ability is viewed as a kind of fixed quantity that determines the degree to which effort can alter performance (Holloway, 1988). In other words, a "smart" student (one with high ability) gets good grades with minimal effort, while the "slow" student (one with low ability) puts out lots of effort with poor results.

A further illustration will be helpful. A sixth grade student from a low performing math group is likely to comment after receiving a poor grade on a test, "Why try, I'm no good at math." The high performance student is likely to say, "I received a good grade because I studied and learned the material." The low performing student believes effort (how hard "I" try) will have no effect on performance because he or she does not have the ability (i.e. "no good at math").

Consequently, the low student is not motivated to try. The high performing student feels that the good grade was deserved because he or she learned the material.

The student who believes that increased effort will have no effect on one's ability to learn will likely be difficult to motivate. Here is where the chief problem lies. The American school as a place for learning helps to develop in students a belief that ability, not effort, is the key to success (Holloway, 1988). Although it may not be a deliberate and premeditated strategy, the type of instructional organization utilized will directly affect student views of themselves as successful learners. Figure 3 provides a model of how the organization of instruction, coupled with the teacher's expectation of students, molds student self-perceptions. Teachers organize instruction based upon their beliefs about student learning. These teacher expectations tend to be fulfilled by students, which in turn reinforces the teacher beliefs about student learning. Thus teachers' beliefs and understanding of the effects of instructional organization become crucial to the success of learning. Three patterns of instructional organization have been identified by Ames (1984) as contributing to student perceptions of themselves as learners.

FIGURE 3. THE EFFECTS OF INSTRUCTIONAL ORGANIZATION AND TEACHER EXPECTATION ON STUDENT SELF-PERCEPTIONS


Student ability and background
Teacher beliefs about learning and intelligence
Teacher organizes instruction
Teacher expects specific behavior and performance
Teacher behaves differently toward individuals and groups
Task structure influences student beliefs about effort and performance
Student effort, attitude and performance are affected
Consistent treatment molds student self-perceptions
Teacher expectations are fulfilled, beliefs reinforced

The Goal Structure of Different Types of Instructional Organization

Recent research has focused on the goal structure of different types of instructional organization. Goal structure refers to the way in which instruction is organized to reward student performance. Three distinct methods of instructional organization have been identified and researched by Ames (1984).

Competitive Goal Structure

In this organizational structure students receive rewards on a competitive basis with their peers. In a typical competitive classroom, students are engaged in whole-class or small ability group instruction. Learning tasks and activities are generally the same, with minor adjustments made for differences in ability. For example, during math instruction, all students are introduced to a concept and then given a seatwork assignment. All students are likely to be working on identical assignments. Evaluation of student performance is a public activity where students

have knowledge of how they performed in relation to their peers. Social comparison information is the primary cue for success.

Individualistic Goal Structure

Unlike competitive goal structures, an individualistic structure places a major emphasis on self-improvement. Students are individually rewarded for gains they make over past levels of performance. This type of organization is characterized by students working on individual learning programs tailored to their unique needs. Usually, some form of assessment has been given to each student. The results indicate areas where the student is performing below a given standard. When a student can achieve to the standard, he or she is rewarded with successful completion. In this setting, it is likely that students would be working on different assignments and activities at the same time. Student success is based on individual comparisons with past and present performance, not on a comparison with other students.

Cooperative Goal Structure

Cooperation is the third type of goal structure. It differs from both the competitive and individualistic patterns of organization because it emphasizes a positive interdependence among students for success or reward. Students depend on each other for task completion. Research evidence demonstrates that cooperative strategies enhance student self-concept and motivation (Slavin, 1980; Sharan, 1980; Johnson, Johnson, & Scott, 1978). Many teachers use cooperative learning strategies. In art class, the teacher might form the class into small groups in order to complete a group mural that depicts a theme in social studies. Less common are cooperative strategies used in academic areas such as reading and math. However, recent trends toward cooperative learning have generated a

number of highly effective "packaged" training programs (see the resource section at the end of this chapter for Slavin,1986; Johnson & Johnson, 1984; Kagan, 1989).

In many multigrade classrooms, teachers have learned to primarily rely on individualized and cooperative learning because they are a natural outgrowth of the way rural multigrade classrooms are organized. Students learn to cooperate and depend on one another and to work on tasks tailored to their individual needs. The teacher encourages and utilizes cooperation among students in order to extend learning. However, there is also a tendency to rely on competitive structures because they are the dominant educational practice beginning teachers learn.

Multigrade conference participants who worked on instructional organization identified a set of advantages and disadvantages for each goal structure along with a list of their appropriate instructional uses. Table 2 on the following page presents an overview of their ideas.

TABLE 2. ADVANTAGES, DISADVANTAGES AND APPLICATIONS FOR THREE CLASSROOM GOAL STRUCTURES

Competitive Goal Structure

Advantages	Disadvantages	Application
Reflects structure of society. Familiar to students. Familiar to teachers.	Produces winners and losers. Can lower self-esteem.	In some sports activities. Competing against oneself or an external goal.

Individualistic Goal Structure

Can improve self-esteem. Students can work at their own level and pace. Students compete against only themselves.	Increased amount of teacher preparation. Students may not know how they stand in relation to others.	When there is a wide range of ability. Maximize student potential.

Cooperative Goal Structure

Advantages	Disadvantages	Application
Students learn to cooperate. Develops feelings of belonging. Increases peer interaction and learning.	Must teach cooperative skills. Some students may not put forth maximum effort. High performing students may dominate cooperative groups. Slower students slip by without producing.	Group projects. To tie a group together and form bonds. When there is a wide range of abilities.

Matching Instructional Organization with the Needs of Students

Teachers faced with a classroom of students must learn to balance the needs of students with the time and energy necessary to meet those needs. A body of research on teaching and instructional organization describes practices and strategies that have proven effective in striking this balance. In so doing, this research has also illuminated a sobering reality -- that many instructional practices

believed to be good for students may have undesirable effects on student efforts to learn. As discussed earlier, the shift in student attitudes from a belief that effort makes a difference in learning to a belief that only ability counts is a case in point. The good news is that the multigrade classroom, with its flexible structure and cooperative learning climate, appears to provide an ideal environment for counteracting this damaging tendency. Why the multigrade setting may facilitate student effort will become clearer as we review the effects of instructional organization on students.

In structuring the classroom for instruction, teachers nearly always use some form of grouping (the one exception may be a completely independent study program). Either they teach to the entire class (whole-group instruction) or they configure the class into different types of groups. For what purpose are different forms of group structure used?

Traditionally, grouping has served a management purpose in classrooms. In a similar fashion to the early evolution of the graded school, grouping has served as a means of sorting and organizing students into manageable units for purposes of efficiency. An underlying belief is that instruction will be more effective with smaller numbers of students grouped by ability. However, studies of ability grouping have clearly shown that the liabilities for low achieving students may often be substantial; and, except for mathematics, ability grouping does not appear to serve any advantage for students (Slavin, 1988). The only exception may be in those cases where groups are temporarily formed for specific purposes such as peer editing.

Bossert, Barnett and Filby (1984) developed a model for describing the different patterns of instructional organization commonly found in schools along two dimensions: activity structure (students engaged in the same activity to engagement in different activities) and student work relationships (students work

independently to working interdependently). Table 3 illustrates these two dimensions.

TABLE 3. TYPICAL CLASSROOM INSTRUCTIONAL ACTIVITIES

Work Relationships	Activity Structure Same<----------->Different		
Independent	(1) Whole-class worksheet	(2) Separate reading groups	(3) Separate individualized program
Interactive	(4) Whole class with cooperation	(5) Separate reading groups with cooperative tasks	(6) Common individualized program
Interdependent	(7) Common group projects	(8) Group product	(9) Coordinated group task

(p. 42)

The following examples (which correspond to the numbers for each classroom activity) illustrate the kind of tasks students would commonly be engaged in:

1. A common worksheet for a class, where students must work alone and are graded individually.
2. Reading groups with different textbooks, but where students within each group complete identical assignments individually.
3. Individualized program where all students are expected to complete the same assignments independently but at different rates.
4. Whole-class recitation, or a common worksheet where students are allowed to interact but where each child completes a separate worksheet.
5. Reading groups with different textbooks, where students can interact while completing their separate but identical assignments.
6. Individualized program where students may work together on assignments, but each child must produce a separate product.
7. Small groups or the entire class work on a common assignment, and individual products are not demanded.

8. Different groups within a class do different assignments, and a group product, not individual products, is required.

9. Different roles (either within small groups or the entire class) for students which require coordination to produce the joint product (Bossert, Barnett, Filby, 1984, p. 42).

Activity #1 (whole-class worksheets) illustrates a situation where students work independently from one another and are dependent on the teacher for direction, instruction, materials and reinforcement. Such dependency counters the need for student self-direction and independence required in the multigrade classroom. In addition, students all work on the same task, thus there is only one dimension for demonstrating competence (i.e. speed and accuracy of worksheet completion). On the other hand, Activity #9 reflects a learning situation where students work in small groups and are highly dependent on one another because they must produce a joint product. Further, students do not all do the same thing, but have an opportunity to demonstrate competence and achieve success in a variety of roles (i.e. writer, illustrator, researcher, etc.) and activities.

The Unidimensional Classroom

Traditional classroom organization resembles those dimensions closest to Activity #1 and #2. Classrooms consistently organized to promote Activities #1 and #2 create powerful norms that are quite problematic for many students, especially for those achieving below grade level in reading (Cohen, 1980) and/or of a minority group status (Rosenholtz & Cohen, 1983). This form of instructional organization has been characterized as "Unidimensional" or "Single Ability." Alternative instructional organization patterns have been successfully implemented that counteract the negative effects of the single-ability learning environment. Table 4 describes the characteristics and norms associated with these two dimensions.

TABLE 4. COMPARISON OF TEACHER AND STUDENT NORMS IN UNIDIMENSIONAL AND MULTI-DIMENSIONAL CLASSROOMS

Classroom Norms	Unidimensional Classroom	Multi-Dimensional Classroom
Belief about Student Ability	Competence and ability are viewed along a single dimension where ability is treated as a fixed entity. Some students possess the ability for high academic performance while other students only have low performance ability.	There are many different dimensions to ability. Every child can demonstrate competence and ability on some instructional task. Therefore, many different tasks are used.
Teacher Role	Presenter of curriculum content, grader of student accomplishment, manager of resources, and controller of student behavior.	Problem solver, tutor, facilitator, promoting all children to achieve learning objectives and to excel across a broad range of competency areas.
Learner Role	Listen, respond, study, and take tests.	Study, participate and discuss, take tests, lead groups, problem solve, and tutor.
Basis for Determining Competence	Reading ability is used as the primary gauge of competence and ability.	Competence and ability are recognized in a variety of areas. Students demonstrate competence in reasoning, art, music, idea generation, cooperative group skills, etc.
Task Structure	A narrow range of activities are used for learning. These are whole group instruction, independent study, seatwork or small, stable ability groups.	Wide range of different activities for learning where students can demonstrate a variety of competencies. This includes individual, pair, small group and large group activities.
Learner Assessment and Evaluation	Grades are arbitrarily curved and normally distributed, which ranks and labels learners. Evaluation is highly visible and comparative.	Focus is on identifying student performance strengths and needs across a wide variety of instructional areas and tasks. Growth is measured by skill mastery, and evaluation procedures are private and individual.
Effects on Learners	For lower achieving students there is a negative effect on self-concept, motivation and work effort. High achievers are reinforced and given greater opportunities to learn. Students also develop a dependence on the teacher.	Student academic self concept, sense of efficacy (personal control), achievement and motivation are enhanced. Students learn that everyone has ability and can demonstrate competence in some area. Self-direction and independence are developed.

In the "Unidimensional Classroom" single-task learning structure and evaluation procedures combine to produce a view of academic ability based on student comparison and consensus (i.e. competitive goal structure). This social comparison tends to produce feelings of inferiority, low aspirations, lack of motivation, interpersonal hostility, and competitiveness in low achievers (Marshall & Weinstein, 1984). A process occurs in these competitive structured classrooms that produces "losers" and "winners" and generates a status system that favors students with the highest reading ability. In other words, students who read the best are seen as being of the highest ability; they receive positions of high status in the classroom.

Even when high status students are placed in different subject area groups (i.e. math, science, or social studies), they are viewed by fellow group members as having the most ability ("being the smartest"). In mixed-ability groups, higher status students (usually determined by reading ability) receive the greatest opportunities to learn, regardless of the subject matter. They do this through dominating discussion and by being credited with high ability status by fellow students (Cohen, 1984; Rosenholtz, 1979). A main reason for this dominance is the place accorded verbal skills in conventional school curriculum. As Rosenholtz points out,

> Conventional curriculum taps a very narrow range of skills, concentrating almost solely on reading and verbal skills, such as speaking and writing, yet rarely emphasizing alternative intellectual abilities in art, athletics, creativity and thinking. (p. 78)

As a result, learning opportunities for lower performing students are significantly curtailed.

The Multidimensional/Multiability Classroom

Elizabeth Cohen (1980) provides an excellent definition of the mulitdimensional/multiability classroom:

A multidimensional/multiability classroom is one in which there are many dimensions of intellectual competence. No individual is likely to be treated highly on all these dimensions. Thus there are no students who are generally expected to be incompetent at new tasks and no students who are generally expected to be superior regardless of the nature of the task. In a multidimensional/multiability classroom, one's skill in reading represents only one important competence; it is not an index of general expectations for success at all classroom tasks.

In the multidimensional/multiability classroom there is a shift in both student and teacher roles that is designed to increase learning opportunities and successes for all students. This is accomplished, in part, by changing and/or expanding instructional strategies to include cooperative work groups where students learn from each other and by increasing the array of areas where students can demonstrate competence. Marshall and Weinstein (1984) identify four components of task or activity structure that enhance student self-perceptions and performance:

A. A variety of tasks occur simultaneously:

- Variety in the tasks allows students to demonstrate their ability in several areas rather than along a single dimension.
- Variety allows students to feel competent in some areas.
- Task variety reduces social comparison because evaluation is less visible.

B. A divergence in the process and products of the task:

- Divergent process is made up of tasks that can be pursued in a variety of ways.
- Divergent products have no specific right answers, results may be good in different ways. This allows for a variety of student experiences of success.
- Divergent tasks reduce the basis for comparative evaluation.

C. Differences exist in the sequence and pace of tasks for different individuals:

- Completion time requirements (pace) can harm the effects of divergent task activities if students are required to complete their tasks at the same time (i.e. those completing first are smarter).

D. Level of task difficulty and content coverage varies:

- Varying the amount of content and the difficulty of content for different students can communicate comparative evaluation information. (Students perceive that high achievers receive harder work).

- Comparison can be reduced if the teacher conveys belief that everyone is learning, but at different paces and in different ways.

- Teacher expectations of ability tend to convey a belief that ability level determines the quality and quantity of tasks assigned. When this is made public, students internalize the values and judge their own ability. Low ability students get easier and more of the "same stuff." (p. 307-308)

Implications

How can this information on task structure, evaluation and student status differences be of use to the multigrade classroom teacher? What norms should a multigrade teacher attempt to put in place? What instructional organization appears to be best for multigrade students? And what can the teacher do to implement the most beneficial instructional organization for students?

Clearly, there are no simple answers to these questions. In the multigrade setting, the need to balance teacher time and efficiency with the best interest of students is a continual struggle. The implications of the research information reviewed thus far tends to strongly contradict the dominant organization typically found in many single-grade classrooms. This research tends to support the successful practices reported by many multigrade classroom teachers. In other words, interdependency, cooperation, multiple task activities, individualized learning and heterogeneous grouping appear to have emerged out of the requirements of coping with multiple grade levels in a single room. This viewpoint

was substantiated by the majority of teachers participating in the multigrade conference held in Ashland, Oregon (1989). Barbara from Arbon, Idaho, reported that she quickly modified the traditional grade segregated groups in favor of cross grade grouping because it provided for more instructional flexibility.

However, the norms characteristics of the "unidimensional" learning environment are powerful forces that have shaped the ways in which many teachers organize instruction, even in a multigrade setting. Recent research on effective teaching and instructional organization strategies describe classroom practices that appear to consistently counteract these forces (see Marshall & Weinstein, 1984; Cohen, 1986; Rosenholtz & Simpson, 1984a, 1984b).

Task Structure and the Effective Teacher

Several factors play a role in determining whether an organizational structure (whole-class, small-group, etc.) enhances student learning. Teacher awareness of effective teaching practices and the ability to apply them to different organizational structures can overcome some of the inherent limitations of a particular structure. For example, in whole-class instruction there is a tendency to call on those students who are the brightest (selective attention). This reduces the opportunity to learn for slower and average students. An effective teacher might allow for cooperative student responses (students respond in pairs), requesting responses from a wide variety of students, giving students time to think before they answer (wait time) or by having every student write out their response.

Another example that is especially relevant to the multigrade environment is the characteristics of the learning activities and the grouping structure used to apply them. There are two general activity categories teachers must consider. First are those convergent or closed learning activities with only one correct answer such as completing a math problem (e.g. 3 + 4 =__; 9 - 4 =__; 24/5 =__); a

workbook page in reading (e.g. circle the word that means . . .); or engaging in recitation with the teacher on the names of countries in western Europe. Given the range of abilities in the multigrade classroom, it is quite difficult to use closed activities with the entire classroom of students. In addition, closed activities allow for greater evaluative comparison. Students can quickly judge who is right and who is wrong.

Divergent or open-task activities have no single correct answer, but provide students with the opportunity to respond to the task in their own unique way and at their own level. Table 5 provides an overview of nine common instructional structures along with an example of a language arts task. Writing a letter to a friend, brainstorming a list of words to be used in a story or describing a favorite story character reflect divergent or open tasks. Using these types of tasks, the multigrade teacher can plan a whole-class instruction for a wide span of ability levels. Divergence also benefits students because it makes comparative evaluation difficult. Since there is no one correct answer, students cannot judge their success by the failure of their neighbor or by how quickly the same answer was achieved. But one should not equate divergent tasks with a lack of standards. In writing, for example, a teacher may establish standards for clarity, format, or length, but still encourage a divergence of thought and expression.

TABLE 5. APPROPRIATENESS OF ORGANIZATIONAL STRUCTURES FOR STUDENT LEARNING ACTIVITIES USING LANGUAGE ARTS GOALS AS EXAMPLES

Structure	Convergent (single correct answer)	Divergent (multiple answers)
Whole-class (same assignment/task)	Every student memorizes the same list of adjectives and writes down their definitions. (Strong comparative evaluation; inappropriate with multiple levels)	Each student writes down ten descriptive words. These are compiled into a word bank and stories are written.
Whole class (same assignment/task w/cooperation)	Every student works with their neighbor to memorize the same list of descriptive words. In pairs, students cooperatively write definitions. (Strong comparative evaluation; inappropriate with multiple levels)	Each student writes down six descriptive words and then trades three words with a neighbor. Students then use each word in a sentence and read to to their neighbor.
Ability grouping (w/out cooperation)	Each ability group has a different set of descriptive words to learn. Students work independently writing the meaning of each word using the dictionary. A worksheet is then completed using the words. (Strong evaluative comparison within group)	Students find five descriptive words they like from their reading text. A word bank is created. Students independently write a story using words from the word bank.
Ability grouping (w/cooperation)	Students work together to define a set of descriptive words and to complete the teacher worksheet. Each group has a different set of words based on reading levels. (Moderate evaluative comparison within group)	Students brainstorm a descriptive set of words to be used in a story. Students then begin a "round robin" story using the words from the new word bank.
Separate individualized instruction (same assignments, different, pace)	Students complete a set of lessons on descriptive words at their own pace. Student A is working on lesson #2 (defining words) while Student B is on lesson #5 (sentence completion worksheet). (Moderate evaluation based on pace)	Student A completes lesson #2 (picking descriptive words from a story and using them in a letter to a friend) while Student B completes lesson #5 (writing an advertisement using words from the word bank).

TABLE 5. CONTINUED

Structure	Convergent (single correct answer)	Divergent (multiple answers)
Common individualized instruction (cooperation with different products)	Student A and C work together to memorize the descriptive words in lesson #2. They work together to complete a crossword puzzle using their new words. Each turns in a separate completed lesson. (Some evaluative comparision may occur)	Students A and B work together, editing each other's story. Stories are rewritten.
Common group project (common assignment w/ group product)	Students all read the same story and complete a worksheet together on descriptive word definitions.	Three separate groups are required to complete the same assignment. After reading a story without an ending, students write a new ending using the class word bank.
Group product (different groups and assignments w/group products)	Three separate groups complete different sets of worksheets on descriptive words. Group A turns in one set of completed worksheets that include sentence completion, crossword puzzles and word definitions. (Little comparative evaluation)	Three separate groups complete different assignments. Group A produces a word bank of adventure story words.
Coordinated (within) group (multiple groups with different roles within groups and common products for each group)	Group A defines a set of 10 words and completes a sentence completion worksheet and a crossword puzzle using the new words. Roles are assigned: researcher defines words, editor corrects writing errors, poet completes sentence. (Little comparative evaluation)	Group produces a historical newspaper about the first explorations of North America. Students assign different roles: reporter, editor, printer, designer and artist.

It is important to realize that no task structure is better than another, but that each has a specific use depending on the learning goals, composition of students and how instruction is organized (i.e. cooperative workgroups, individualized instruction, etc.). In fact, effective teachers often use both convergent and divergent structures within the same lesson. In addition, the amount of comparative evaluation likely to occur is indicated in parentheses.

Strategies for Instructional Organization

Effective strategies have been implemented to counteract the negative effects of organizing instruction along a single-ability dimension. Both students and teachers are trained to view ability as multifaceted, not a fixed entity possessed by only a few. In the traditional single-ability classroom, reading is generally viewed as a prerequisite for all other tasks. Few activities are offered where other forms of ability such as reasoning, decision making, idea development and observational skill can be tested and verified (Rosenholtz & Cohen, 1983). Cohen (1980) identifies three key areas for altering unidimensional classroom structure in order to change student and teacher views of intelligence and ability: increasing learning opportunities, increasing opportunities for success and changing evaluation practices. The following guidelines, adapted from Cohen provide a set of practices for planning multiability activities:

Altering Existing Practice

In order to alter existing practice, three important instructional variables must be considered:

I. Opportunities for active academic participation. This can be accomplished by:

   A. Using heterogeneous small groups rather than large groups.

B. Using guidelines for equal participation of all members of small groups.

C. Using leadership roles and opportunities for all students in small groups. (Grouping strategies are discussed in greater detail in the Chapter 5, Instructional Delivery and Grouping).

II. Opportunities for success on academic tasks can be increased for all students by expanding the definition of ability and competence through:

A. Using academic tasks requiring multiple intellectual abilities.

1. Try using multi-media activities which accommodate individual learning styles.

2. Try publicly defining the separate intellectual skills required for completing given tasks such as reasoning, observation, creativity, and so on.

3. Try role playing.

B. Individualize in conventional academic areas thereby allowing students with weak skills to work on tasks which are not too easy and not too difficult.

C. Have small groups share skills so that the student with specific skill problems is not prevented from attaining success on tasks.

III. Pay special attention to evaluation procedures that produce damaging evaluative comparisons by:

A. Making infrequent use of marks and grades which allow comparison between individuals on a single dimension.

B. Using systematic individualized feedback to each student on how well he or she is attaining objectives and which particular skills require further work.

C. Avoiding public evaluation in recitation.

D. Avoiding standardized tasks which make comparison easy on how well or fast a student is completing the task.

E. When using groupwork, evaluating the group product rather than the contribution of the individual to the group.

Curriculum

Discussion has focused mainly on how different instructional practices affect student performance and self-perceptions of learning. It was found that consistent whole-class instruction and/or inflexible ability grouping tends to emphasize competition through public comparative evaluation practices. In these types of learning environments, student ability becomes quickly stratified along a single dimension where reading performance generally reflects the primary index of competence. Unless effective teaching practices are implemented to counteract this prevailing trend, students, especially lower achieving ones, are negatively affected. On the other hand, individualized programs and cooperative workgroups place major emphasis on personal growth and group performance, thereby increasing student opportunities for demonstrating competence and improved peer relations. The following sections will focus on instructional organization within the context of curriculum, describing the elements and responsibilities of curriculum organization.

The Hidden Curriculum

What has been presented thus far reflects an area of schooling often referred to as the "hidden or "unstudied " curriculum. This includes such areas as tracking and grouping practices, scheduling and the allocation of time, disciplinary practices, the physical environment, school norms and values and human relationships. These areas of schooling are hidden because they affect student learning in powerful, but often unintended ways. We also influence how students learn to relate to each other and the teacher in accomplishing tasks -- a social norm which the student may well carry with them throughout their adult lives. As educators, we need to become aware of the hidden curriculum and its effects on

students and consciously modify these "hidden" practices to enhance student learning.

The remaining curriculum is referred to as the "studied" or "planned" curriculum and can be divided into two general areas: essential learning skills and enrichment. The following section will focus on the "planned" curriculum, providing a brief overview of its structure and basic planning consideration for use in the multigrade classroom.

The "Planned" Curriculum

The "planned" curriculum can be described as consisting of four key elements: goals, resources, activities and assessment. Translated into teacher terms, curriculum can be described as a series of questions:

What do students need to know?

How will I help them learn it?

What resources will I use?

How will I know if the students have learned it?

Table 6 provides an overview of these four questions in terms of curriculum levels and responsibilities generally found in most school districts.

In larger districts and schools, all curriculum levels, from philosophy to assessment, are often clearly defined. The single-grade teacher in a metropolitan school district would likely be required to follow a specified set of goals and learning objectives while using district adopted materials and tests. Multigrade teachers, on the other hand, may often find themselves in the role of answering these questions with little guidance from a central school district or governmental agency. Even in those cases where the state or a central educational service district provides guidance for the multigrade school, isolation and small size will often reduce the amount of direct service. Even more confounding, curriculum

TABLE 6. OVERVIEW OF CURRICULUM LEVELS AND REPONSIBILITIES

Curriculum Level	Grade Level	Example: Language arts	Responsibility
District philosophy and purposes	All grades	All graduates will read, write and speak effectively.	Community and school board
Curriculum goals	All grades	Writing: The student is able to write out of his own experience, internal as well as external.	Department of education, community, school board, administration and teachers
Learner objectives	Grade specific	G.1-2: The student is able to write a complete sentence. The student can write two or more related sentences.	Department of education, community, school board, administration and teachers
Resources (guides, texts, handouts, etc.)	Grade specific	G.1-2: Curriculum guide, grades 1-2. Daily writing journal, textbook, p. 23-25, and teacher developed materials.	Administration and teachers
Methods and activities	Grade specific	G.1-2: a) Students complete sentences with the teacher. b) Students orally give examples of sentences to the teacher. c) Students write sentences in their writing journals.	Administration and teachers
Assessment procedures	Grade specific	G. 1-2: Sentence completion, review journals or oral review.	Department of education, school board, administration and teachers

goals, guides, and texts are conventionally organized by "grade level," placing the teacher in the dilemma of how to achieve expected learning goals when the instructional organization may well be inappropriate. Rural multigrade teachers often find themselves operating on their own.

What do students need to know?

When a teacher enters a classroom with a new group of students, the teacher's most pressing concern generally revolves around determining what the students already know and what they may need to learn. Ideally, there should be student records that provide an overview of individual student progress. These generally include standardized achievement test results, report cards, and diagnostic testing information for reading and math programs. However, this type of information is not often kept systematically. In addition, if students are returning from a summer vacation, they may have regressed from the previous year's testing.

The best way to determine what students know is through direct assessment:

- Talk to students -- Conduct an interest survey and/or conduct interviews. Learn the types of learning students find motivating. Students can also tell what textbooks, learning kits or instructional materials they worked with the previous year. Student are an often overlooked source of first hand information.

- Observe students working and interacting -- Set up learning activities where you can watch how students perform in different subject areas and how they relate with peers. Make note of what you learn.

- Use diagnostic procedures -- Using grade level placement information gathered from student records, and other information sources (such as colleagues or the community), plan lessons for diagnostic purposes. These might include writing activities, completing a series of math problems or individually reading to the teacher. Results from these lessons can be used to determine student strengths and needs. Basal textbooks generally include diagnostic materials for placement purposes.

When planning for diagnosis, it is important to set curricular priorities. In other words, what content is essential for all students to master and in what order?

If the district has established learning goals or adopted a curriculum, then these can be used to guide your decisions. However, if there do not appear to be any established guidelines, then you should use what classroom resources you can find and work with community members to help identify goals they desire for their children. There are many curriculum guides developed by state departments of education that may be obtained by contacting them directly or by using ERIC (Educational Resources Information Center) to find curriculum guides and curriculum models. Lastly, do not forget to use your own common sense to decide what the students need to learn.

How will I help them learn it?

Determining how you plan to organize your classroom for instruction and the types of activities you plan to use will depend on many factors. What materials are available? What different levels will you be teaching? How many students will you have? Will you have adult help? What strengths do you bring to the classroom? It is also important to ask what methods and strategies are likely to be the most effective.

Many excellent resources have been written on effective teaching. Several of these have been listed in the resource section at the end of this paper. However, it is safe to say that a sound principle to follow in developing instructional activities is that "demonstrating or discovering" is better than "telling." Students learn best when they can see and directly experience the desired learning, then follow it by opportunities to practice. This holds true for social as well as academic goals.

What resources will I use?

One of the first tasks upon entering a new classroom is to take stock of what resources are available. The following guidelines provide an outline of ideas for collecting and assessing curriculum materials:

a. Determine what the school has that you can use:

   (1) workbooks (old or new)
   (2) worksheet masters
   (3) textbooks (old or new)
   (4) idea/activity books
   (5) learning kits
   (6) any type of hands-on materials

b. Determine whether there is any discretionary money for buying materials.

c. Ask other school personnel what resources may be available.

d. Check the local library for books or magazines that will go with units of study.

e. Examine teachers' manuals and note worksheets, games, devices, or other suggested learning activities.

f. Collect materials that may be of use such as magazines, maps, wallpaper books, carpet squares, milk cartons, etc.

g. Look for simulations, games, and other social/interactive learning activities, especially in social sciences.

h. Robin Lovec, a multigrade teacher from Montana, says she finds lots of useful materials at garage sales.

How will I know if the students have learned it?

The last area of curriculum is assessment. Unlike diagnosis, where the aim is to determine what students need to know, assessment focuses on ascertaining whether students have learned what they were taught. Assessment should be considered an ongoing activity, occurring at each phase of instruction. When you measure student progress toward achieving a goal, you are also assessing how well you taught or organized instruction. The results of your assessment should become the basis for altering the course of instruction.

There are many different methods for measuring student progress, ranging from formal standardized tests to informal classroom observation. The two most commonly used are teacher-made tests and commercially-prepared tests

accompanying textbooks. Daily student work also may be quite useful in measuring student growth, provided you have baseline student work for ascertaining changes in performance. Many teachers, for example, keep a writing folder for each student. Samples of student writing are collected and dated. In this way, the teacher and student can monitor changes in the students writing.

The following ideas relating to student assessment were submitted by the multigrade conference workgroup on instructional organization. They suggest that teachers need to consider many different strategies and issues, among them:

- Using a point system for rewarding student progress
- Developing checklists that explicitly state performance expectations
- Establishing successful practices for communicating student assessment to parents
- Developing self-assessment strategies for students
- Using peer assessment
- Using observation and anecdotal notes
- Looking for not only successful completion, but effort and improvement as well as successful completion

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Resources

Cohen, Elizabeth G. (1986). Teacher application pamphlet: Designing change for the classroom. (ERIC Document Reproduction Service No. ED 211 501)

This study provides a theoretical rationale for using small groups, directions on how to train children in small group behavior and specific activities to be used during training, and information on adapting existing curriculum for small group work.

Available from: ERIC
3900 Wheeler Ave.
Alexandria, VA 22304-6409
1-800-227 3742
Price: $23.60

Cohen, Elizabeth G. (1986). Designing groupwork. New York, NY: Teachers College Press.

This book provides detailed strategies for starting groupwork in your classroom and details the research supporting cooperative workgroups. The book is written in a direct, clear style that makes it easy to follow and useful to the classroom teacher.

Available from: Teachers College Press
Columbia University
New York, NY 10027
Price: $13.95

Johnson, D.W., Johnson, R.T., Holubec, E.J., & Roy, P. (1984). Circles of learning: Cooperation in the classroom. Edward Brothers, Inc.

The authors present the underlying concepts regarding cooperative learning. Steps for implementing cooperation in your classroom and the research supporting it are also presented.

Available from: ASCD
125 N. West Street
Alexandria, Virginia 22314-2798
Price: $8.50

Kagan, Spencer. (1989). Cooperative learning: Resources for teachers. Laguna Niguel, CA: Resources for Teachers.

This book provides a detailed guide for implementing the structural approach to cooperative learning. It includes a guide to resources in cooperative learning and an overview of cooperative learning research. There is a wealth of concrete strategies for teachers to use.

Available from: Resources for Teachers
27134 Paseo Espada #202
San Juan Capistrano, CA 92675
Price: $20.00

Slavin, Robert E. (1986). Using student team learning. Third edition. Baltimore, MD: Johns Hopkins University.

"This teacher's manual describes a set of practical instructional techniques that involve students in cooperative activities built around the learning of school subjects. These are techniques developed and researched at Johns Hopkins University, plus related methods developed elsewhere." (From the Introduction by Slavin, p. 5).

Available from: The Johns Hopkins Team Learning Project
Center for Research on Elementary and Middle Schools
Johns Hopkins University
3505 North Charles Street
Baltimore, Maryland 21218
Price: $8.95

"I walked around listening to the groups at work. Sometimes the teacher would ask a question which might lead a group into a 'new' discovery. One child came to the teacher with a question and the teacher asked if everyone at her group had the same question. It wasn't until later that I learned the class consisted of 4th-5th-6th graders. They seemed to be working so well together and I don't remember noticing that the groups were dominated by older looking students. Everyone had been contributing. The problems students worked on together did not appear to be beyond the skill level of any of the students. Yet, they were challenging to students at all levels. At the end of the period, groups posted their results and were sharing them with other groups."

– On a visit to Joel Anderson's class at Onion Creek School

Chapter 5

Instructional Delivery and Grouping

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INSTRUCTIONAL DELIVERY AND GROUPING

There are many different ways that teachers in both single and multigrade classes deliver instruction to students. Lecture-recitation, small group learning, independent study, paired peer tutoring, and computer-aided instruction are among those commonly used. Each instructional method affects student achievement and attitude in different ways and serves different instructional purposes. Therefore, it is important to understand how these methods of delivering instruction work, how they impact student learning and the purposes they best serve.

In this chapter, the most commonly used methods will be briefly described along with research-based evidence indicating their potential impact on students. In addition, methods found to be most beneficial for multigrade instruction will be discussed in greater detail, indicating how they might be used and where further information may be obtained.

Because cooperation and peer support play such a key role in multigrade instruction, a major emphasis will be placed on groupwork: how to form groups, structuring learning experiences, and the skills needed for successful cooperation. It is most important to keep in mind that instructional delivery and classroom environments are extremely complex. Information presented here provides only a sampling of possible responses to this complexity. References and resources will be listed for those seeking more detailed information.

Methods Teachers Commonly Use

From our early experiences as students, we generally remember a classroom characterized by the teacher in front of the room or in front of our reading group "teaching". After the lesson, we often completed worksheets at our individual desks while the teacher worked at her desk. A test was often given sometime later

to determine what we learned. If asked what our favorite subject was, we jokingly would say, "recess."

Not much has changed for a great majority of students. Based on current research, this pattern of instruction is alive and well in a majority of classrooms in the United States, despite evidence that there may be more effective methods of learning and ones that better meet our schools' goals on democratic citizenship.

One of the most extensive studies of schooling practices ever undertaken was presented by John Goodlad (1986) in his book titled, A Place Called School. In his discussion of the data taken from student and teacher interviews and observations of more than 1,000 classrooms, Goodlad's research presents a rather bland picture of student learning experiences:

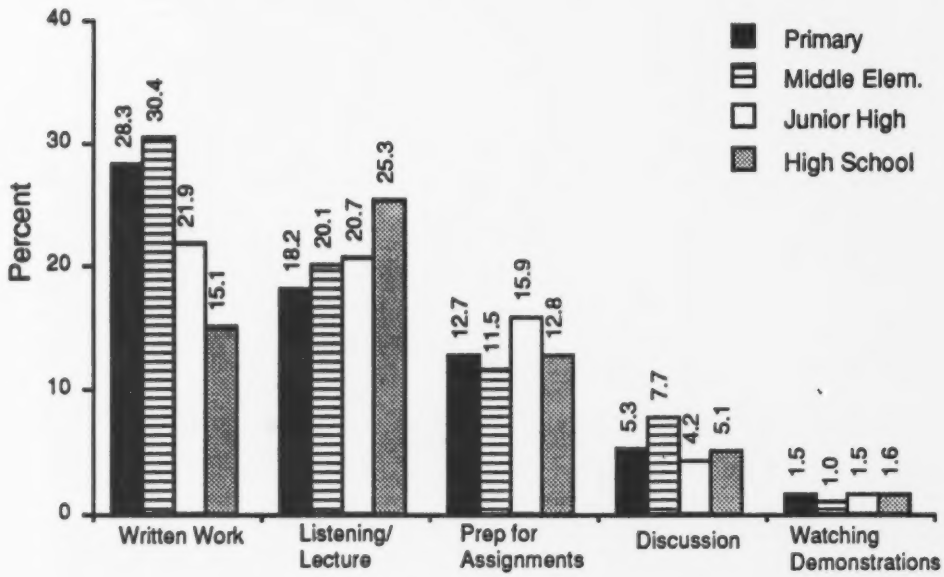
> Four elements of classroom life in the schools of our sample come through loud and clear from our data. First, the vehicle for teaching learning is the total group. Second, the teacher is the strategic, pivotal figure in this group. Third, the norms governing the group derive primarily from what is required to maintain the teacher's strategic role. Fourth, the emotional tone is neither harsh and punitive nor warm and joyful; it might be described most accurately as flat.
>
> No matter how we approach the classroom in an effort to describe and understand what goes on, the teacher comes through as coach, quarterback, referee, and even rule-maker. But there the analogy must stop because there is no team . . . There is little or nothing about classroom life as it is conducted, so far as I am able to determine, that suggests the existence of or need for norms of group cohesion and cooperation for achievement of a shared purpose. (p. 108)

Not surprisingly, the most dominant form of instruction was a lecture-recitation format, where the teacher presented the information to be learned, asked questions to check understanding and then gave seatwork. The frequency of these activities increased progressively from the primary grades through high school.

Goodlad found little evidence of instructional methods that used active modes of instruction (i.e. discussion, demonstrations, small group projects, etc.).

Figure 1 presents a summary of five instructional practice areas in primary through high school classes drawn from Goodlad's research.

FIGURE 1. SNAPSHOT OBSERVATIONS OF INSTRUCTIONAL PRACTICES FROM A PLACE CALLED SCHOOL



More than 60 percent of student time is involved in passive activities where students either listen to the teacher or do seatwork assignments. The remaining percentage of instruction (not shown on the graph) reflects more active forms of learning such as practice in verbal performance (average for all levels = 4.6 percent), non-textbook reading (average for all levels = 4 percent) and simulation/role play (average for all levels = 2 percent). No data was obtained indicating students worked cooperatively on group projects, tutored, or were involved in inquiry forms of instruction. (For a detailed look at several classrooms which exemplify Goodlad's data, see Bossert, 1979).

Goodlad's research demonstrates that the most common form of instruction employs a lecture-recitation format, where students tend to be passive participants

for a large part of the learning process. Interestingly, in a comprehensive review of the literature on teacher recitation (question-answer format) Suskind (cited in Sarason, 1982) found three striking characteristics:

- Teachers ask an average of 45 to 150 questions per half-hour
- 67 percent to 95 percent of all teacher questions require factual recall
- Children ask fewer than two questions per half-hour

Many reasons account for this reliance on lecture-recitation: It is the way most of us were taught as children. It is the predominate instructional method in schools. It is the primary form of instruction in teacher preparation classes. And it provides for greater teacher control (Sarason, 1982).

If we desire to develop cooperative, self-directed learners, then other instructional methods must be used as well. In addition, recent research on effective teaching sheds new light on the use of recitation. Teachers whose students show significant growth in achievement have strengthened the recitation method so that it is a powerful tool for teaching basic skills. This method has been called by numerous names: direct instruction, explicit instruction and the practice model of instruction. Even with these improvements, teachers must use a variety of methods if student attention and motivation are to be maintained (Good & Brophy, 1987). It also must be recognized that some types of learning -- concept development, how to work in small groups, developing self-direction or building skills as a writer -- require different instructional methods.

Recitation

Recitation gained its name from the early 19th century practice of a single student reciting a lesson to the teacher. With the rise of graded classroom instruction, the term has come to mean a "whole-class format characterized by question-answer drills over content" (Doyle, 1986, p. 403).

Lecture-recitation has three distinct parts:

1) explanatory presentations of organized information (often by teacher presentation or independent study)

2) monitoring student "learning" through questions requiring a single correct answer response

3) publicly evaluating student responses as to their correctness

There are many variations of these three steps. They may be used in small or large groups or they may be used with individuals. Generally, research indicates that recitation is most commonly used with large, whole-class groups. A typical recitation involves a teacher questioning students in a fast-paced manner. Students would publicly answer and their responses would be evaluated for correctness. Recitation tends to work best with factual or convergent type information and with students of the same ability level:

Teacher: We have just presented information on using adjectives to sharpen your writing skills. Let's review to see how much you learned.

What job does an adjective play in a sentence?

Student: It serves to describe a noun.

Teacher: Excellent. Who can give me an example?

Student: Old.

Teacher: That's correct?

Student: Run!

Teacher: No, that's an action word.

Notice that the teacher has just completed a presentation on adjectives and begun to question students to check their understanding. When a student gave a wrong answer, the teacher said it was incorrect.

Recitation can be used to gain feedback on student knowledge. However, when used with groups, public evaluation of student responses and the equitable distribution of questions can be problematic for many students, especially low achievers. During recitation, students quickly learn who are the "smart" students by

who gets asked questions and who has the correct answers. The long term effect on many students is to dampen their desire to answer questions. Students learn it is better to be quiet and let the "smart' students do the talking.

If a teacher uses recitation, what can be done to reduce or eliminate the negative effects? In his book on questioning, Dillon (1988) provides some strategies and guidelines for increasing student involvement and reducing the negative impact of public evaluation. Dillon suggests that students also prepare convergent questions to be used during recitation. But instead of the teacher using the student questions, students pair up and ask each other the questions. Table 1 provides an overview of the key elements in planning and carrying out recitation.

Other strategies have been effectively used to counteract these negative effects (Good & Brophy, 1987; Kagan, 1989):

- Extend wait time after a question to three to five seconds.
- Keep a tally of who has been called on in order to ensure all students get an equal opportunity to respond.
- Use cooperative learning structures that allow students to confer with one another before answering.
- Have students write answers down and hold them up when responding.

Dillon suggests that careful planning, patience and a show of interest (listening) is central to effectiveness. He also suggests that recitation is based on an explicit set of behaviors that need to be followed consistently. In other words, don't use tricky questions when students expect right or wrong type questions.

In terms of evaluation, be clear if the response is correct or incorrect and then praise and/or elaborate. Corrective feedback has been demonstrated to improve student achievement (Good & Brophy, 1987).

For the multigrade teacher, recitation must be used judiciously. It is not a method that lends itself to whole-class instruction, where multiple performance

levels have been combined. Recitation is most effective when used for basic skills instruction, where all students are learning the same skill and/or at the same performance level.

TABLE 1. PLANNING GUIDE FOR RECITATION

Teacher Asking Questions	Student Asking Questions
Prepare the questions to ask: 1. Write them down. 2. Arrange them in a purposeful order. 3. Try them out on friends, then revise. *Ask questions nice and slow:* 1. Stop and think before asking. 2. Ask and patiently wait for a response. *Listen intently to the answers:* 1. Show interest in student response. 2. Listen to all of the response. 3. Listen to right and wrong answers, from slow and fast students.	*Preparation:* Have each student prepare five written questions and answers, while you prepare ten questions. *Exchange:* Help students orally exchange their questions and answers, while you listen and comment. 1. Student A asks a question. 2. Student B gives an answer. 3. Student A evaluates the answer. 4. Student B asks the next question. *Quiz:* Contribute a few of your questions, to be answered orally or in writing. *Evaluation:* Evaluate the question-answers, correcting the questions and teaching students to use questions for learning.

(adapted from Dillon, 1988, p. 98)

Discussion

Both discussion and recitation use questions, but discussion is quite different in its purpose and the types of questions used. As you may remember, recitation uses convergent questions (only one right answer). Discussion, on the

other hand, uses a few well thought out divergent questions aimed at perplexing students in order to stimulate thought and conversation. Whereas recitation asks many questions with single answers, discussion asks fewer questions that generally have more than one right answer.

The role of the teacher is quite different in discussion as well. The teacher does not talk at every turn of the questioning, but yields the floor to students who speak at considerable length, respond to observations made by their peers and bring in outside information to illustrate their point of view.

Teacher: If you found $10 on the way to school, what do you think you would do with it?

Student 1: I would keep it. If it was just blowing along the ground, there would be no way to know whose money it was.

Student 2: I am not sure. I would like to keep it, but then maybe the person who lost it really needed it. I am not sure how to find the person who lost it.

Teacher: That is an interesting point. How would you find the person who lost the money?

As the example illustrates, discussion begins with a perplexing question that engages student interest and thought. As students express their viewpoints, a diverse set of responses begin to emerge which often raise additional questions. The teacher's role is to keep discussion moving by raising probing, but related questions.

Table 2 provides an overview of the key elements in planning for a discussion. Since discussion involves divergent questions, where no single answer is correct, students from many different levels of achievement can participate. However, students need to be trained in how to listen and support their peers during discussion.

TABLE 2. PLANNING GUIDE FOR DISCUSSION

Prepare the question for discussion:

1. Develop a question based on your intended purpose and write it down.
2. Decide how you will present it to students: orally, on the blackboard or as a handout.

Be sure your question perplexes students:

Review the question with students until they understand it the way you do.

Use non-questioning techniques to facilitate discussion. There are four general approaches which can be used after a student has just finished speaking:

1. *Statements* - If you have questions you would like to ask in order to facilitate discussion, rethink them as statements. For example, instead of saying, "Do you believe all people feel that way?" you might say, "I know several people who have different feelings about that." You can also use restatement of what you think a student may be saying. The point here is to avoid falling into a central teacher questioning role and to keep the discussion going among the students.
2. *Student Questions* - provide for a student or class question regarding what a speaker has contributed. For example, a student has just said that people who make lots of money are insensitive to the poor. Other students could be encouraged to ask: "Can you tell us why you believe that?"
3. *Signals* - Signal your reception of what the student is saying, without taking or holding the floor yourself. You might use phrases such as, "That is interesting," "Oh, I had not thought of that before," or "wow, amazing, etc."
4. *Silences* - Say nothing at all but maintain a deliberate, appreciative silence for three seconds or so, until the original speaker resumes or another student enters. If the silence is too long, act quickly.

(see Dillon, 1988 for greater detail)

In summary, discussion, unlike recitation, begins with a teacher question aimed at perplexing students and thereby engaging them in student-to-student dialogue. The teacher's role is not to control and direct student responses toward single "correct" answers, but to facilitate student exploration of the topic. Discussion may be used with a wide range of student levels, and is an excellent method for stimulating ideas for writing. Because it works well with multiple achievement levels, it is ideal for total class instruction in the multigrade classroom.

Practice Model of Instruction

The Basic Practice Model of Instruction (Murphy, Weil & McGreal, 1986) exemplifies a direct-instruction method that embodies the research on effective teaching in a meaningful framework for teachers. The research supporting this model has been collected from real-life classes where students have shown significantly high academic achievement. In developing the model, two areas of learning were focused on — the learning environment and the learning activities. The crucial variables relating to each of these areas will be presented along with the research supporting their effectiveness (as cited in Murphy, Weil & McGreal, 1986). This model is most beneficial to the multigrade teacher for use in basic skills instruction. However, elements of the model have wide implications for effective teaching with most subjects.

A. The Learning Environment

Research has identified six essential variables affecting the learning environment that are under teacher control and related to student achievement in basic academic subjects. Each variable will be presented along with its identifying characteristics and the associated teaching behaviors.

1. Teacher Authority

Strong teacher direction and control is associated with student achievement in basic skills subjects. This occurs because the teacher maintains greater student involvement and more on-task student behavior through the following activities:

- controlling and maintaining a dominant role in discussion
- assigning children to seats and learning groups
- arranging the learning environment so children do not have to get up to secure materials
- organizing instruction around teacher questions and using questions that require specific answers in a recitation format

2. Task Orientation

The learning environment is characterized by a primary emphasis on the assignment and completion of academic tasks. Students are more engaged and learn more when teachers maintain a strong academic orientation rather than a strong emotional/self-esteem focus. Students who have success on academic tasks, generally have better self-concepts than those who do poorly.

3. Positive Expectation

The teacher shows a positive concern for each student by demanding academic excellence and mature behavior conducive to academic progress. Teachers expect more work and quality work because they believe that all students can learn.

4. Student Cooperation and Accountability

Teachers who expect students to work together and cooperate on academic tasks produce higher student performance than teachers who do not emphasize cooperation. Effective teachers:

- expect students to cooperate in completing academic tasks
- hold students accountable for their work
- use well-thought-out reward systems for reinforcing cooperation

5. Non-negative Affect

Teachers should emphasize academics through positive reinforcement and avoid such negative behaviors and attitudes as:

- criticism of student behavior
- yelling or screaming at students
- using sarcasm with students
- scolding students for inappropriate behavior
- ridiculing students to facilitate learning

6. Established Structure

Teachers who establish a clear learning structure, including norms for student behavior and predictable patterns of activity, produce greater student learning than those teachers who do not establish a well-defined structure. The establishment of structure involves:

- developing clear class rules and procedures that are taught and monitored
- establish clear class routines and ensure that all students understand them

B. The Learning Activities

The sequencing of activities in a lesson and the types of activities the teacher chooses to emphasize have a direct relationship to student academic achievement in basic skills. Three topic areas will be presented that have been associated with effective planning and instruction.

1. Establishing a Framework for the Lesson

Before the lesson begins, the teacher establishes a framework for instruction that helps students understand how information will be presented. Effective teaching research has identified six key teacher behaviors:

- organizing learning materials in advance
- providing clear, explicit direction about work to be done

- telling students about the materials they will use and the activities they will be involved in
- conducting pretests
- revealing and/or discussing the objective of the lesson
- providing an overview of the lesson
- relating new materials to what students already have learned

2. Teacher-Student Interactions

This part of the lesson is often referred to as the direct instruction component, where the teacher presents materials to the students and solicits their reactions. There are two distinct phases in this part of the lesson. In phase 1, the teacher:

- presents the skill or concept in the form of a model which demonstrates how the parts of a skill are connected and works through several examples.

In phase 2, the teacher:

- conducts recitation to check for student understanding. During this phase of instruction, research has demonstrated the effectiveness of specific teacher questioning behaviors:
  - teachers dominate the questioning process by asking questions rather than answering them
  - teachers remain active by constantly rephrasing or asking new questions
  - questions are phrased in terms of the academic objective of the lesson
  - questions are phrased in order to ensure a high level of student success
  - teachers use factual questions with single answers when teaching basic skills

Research has also demonstrated the effectiveness of certain types of teacher response:

- teacher responds to incorrect or unclear answers by probing in order to have students clarify or improve their answers

- teacher provides additional information or reteaching for incorrect or unclear responses
- teacher avoids criticism
- teacher gives specific and personalized praise
- teacher gives mostly academic related praise
- praise is dependent on the quality and nature of the student response

Lastly, three teaching behaviors have demonstrated their effectiveness in structuring student attention toward key lesson elements:

- teacher alerts students to the key parts or skills of the lesson
- teacher sums up subparts of the lesson and the entire lesson at the end of instruction
- teacher informs students of transitions during the lesson

Both teacher presentation and recitation phases of the lesson have been strongly associated with student on-task behavior, higher cognitive response abilities and more favorable attitudes toward the subject.

3. Monitoring

Monitoring refers to that part of instruction that occurs after the direct instruction. During this phase, the teacher supervises student practice to determine skill comprehension and provide additional assistance. Monitoring has shown to improve student on-task behavior and increase achievement. Monitoring helps to hold students accountable for learning. During monitoring, the teacher should:

- prepare students for seatwork by making sure they can perform the work
- maintain a dominant position, deciding who receives feedback and help
- provide feedback on specific subskills of the lesson in small, manageable portions that last a few seconds rather than long periods

When this effective teaching research is put together into the Practice Model of Instruction, it provides a clear and sequential set of steps for teaching basic

academic skills to students. Table 3 provides an overview of the five phases of the model and their related steps.

The Practice Model of Instruction reflects the accumulation of effective teaching research. It is important to keep in mind, however, that this body of research reflects a primary focus on the teaching of basic skills in reading and math. From another perspective, this research reflects what the most effective teachers have done using a teacher directed recitation method of instruction. Clearly, this model is not applicable for all types of learning and should be used with this caution in mind. (For a detailed guide for using different models of instruction see Joyce & Weil, 1980.)

TABLE 3. THE BASIC PRACTICE MODEL OF INSTRUCTION

Phase	Steps
1. Orientation	Teacher establishes goals, procedures, content of lesson
2. Development	Teacher explains concept or skill Teacher provides model/demonstration Teacher checks for understanding
3. Structured Practice	Teacher leads group through practice examples Students respond with answers Teacher provides corrective feedback
4. Guided Practice	Students practice new concept or skill as seatwork Teacher monitors student seatwork Students practice new skill concept as homework
5. Independent Practice	Teacher ensures student homework reviewed/corrected

(Murphy, Weil, & McGreal, 1986, p. 91)

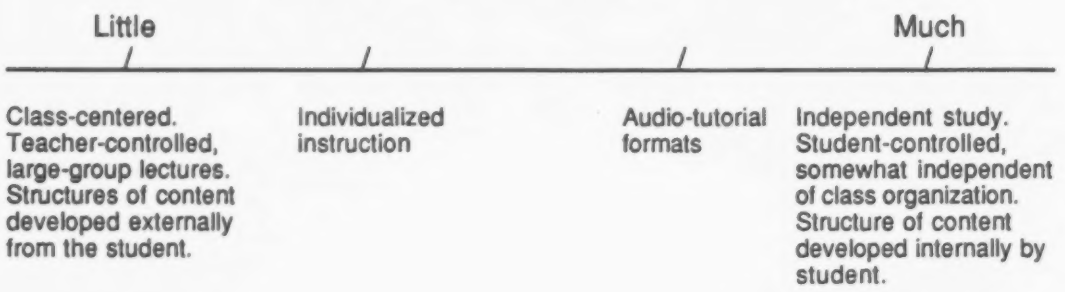
The research-based components are especially strong features of the Practice Model. In addition to their use with this model, many of them can be applied across a wide range of instructional methods in the multigrade classroom.

For example, in whatever method you use, it is beneficial to be explicit with students regarding academic and behavior expectations. It also makes sound educational sense to monitor learning in order to adjust instruction and to indicate to students that learning is important.

Independent Study and Individualized Instruction

Independent study and individualized instruction are terms that have often been used to mean the same thing: students working independently from one another and from the teacher in order to achieve individual learning goals. However, there are differences between independent study and individualized instruction that can be illustrated on a continuum (Figure 2) in terms of student control and responsibility over the learning process (Klein, 1982).

FIGURE 2. DEGREE OF STUDENT RESPONSIBILITY AND DECISION MAKING ABOUT LEARNING


Little
Much
Class-centered. Teacher-controlled, large-group lectures. Structures of content developed externally from the student.
Individualized instruction
Audio-tutorial formats
Independent study. Student-controlled, somewhat independent of class organization. Structure of content developed internally by student.

(Klein, 1982, p. 836)

Generally, independent study is associated with high school and college level education where students work with an advisor in setting up a program of studies that is independent of classroom or course organization.

More recently, independent study has been used at the elementary level with gifted students who are highly motivated and self-directed learners. In both

situations, there is a trend toward students setting their own learning goals, choosing an approach to achieving their goal, and periodic self-monitoring.

It is also important to distinguish this concept of independent study from the common elementary practice called independent seatwork, where students work independently on learning activities that are related to a teacher directed lesson. Students may have some choice in materials or activities, but the teacher maintains primary control of learning.

Individualized instruction, like independent learning, has come to mean many different things. However, several key features distinguish it from other instructional methods. Wang and Lindval (cited in Good & Brophy, 1987) identify seven features that distinguish individualized instruction from other methods of learning:

1. Instruction is based on the assessed capabilities of each student.
2. Materials and procedures are used that permit each student to progress at a pace suited to his or her abilities and interests.
3. Periodic evaluations are used to inform the student regarding mastery of learning goals.
4. Students assume responsibility for diagnosing present needs and abilities, planning learning activities, and evaluating his or her progress toward mastery.
5. Alternative activities and materials are available for aiding student acquisitions of essential academic skills and content.
6. Provisions for student choice in selecting educational goals, outcomes, and activities exist.
7. Students assist one another in pursuing individual goals and cooperation in achieving group goals. (pp. 360-361)

Although few individualized programs contain all seven elements, most contain provisions for diagnosing student need, organizing learning materials and

experiences, evaluating progress, and alternative learning materials for students who need reteaching.

In summary, the greatest variation between individualized instruction and independent study centers around the degree of student control and responsibility, with independent study requiring the most. Clearly, teachers must begin by teaching students to handle responsibility and self-direction before assigning them to one of these strategies, and then, only when they are ready.

The research on these two methods of instruction is uneven and inconsistent. In part this is due to the wide range of individualized programs implemented and variations in how educators define their methods. However, it is safe to say there have been significant gains in academic achievement when the programs have been designed and implemented using effective learning principles (Good & Brophy, 1987).

A central problem for the multigrade teacher is working with individuals or small groups while ensuring that the remainder of the students are meaningfully engaged in learning. Individualized instruction and independent study provide useful methods for solving this problem. For example, while the teacher instructs a group of primary level students in reading skills, students at the upper levels could be engaged in individual or group learning activities that have been developed and written down in advance.

The types of individual learning activities would depend on the needs of students, available resources, and the maturity of the students. Some students might require tightly sequenced and structured learning materials while others may be self-directed enough to establish their own learning goals, choose the learning activities, and keep track of their own progress. Learning centers, computerized learning programs, and learning kits have been used extensively to aid in individualization. However, teachers have usually used them as an extension of

existing lessons rather than a unique program of studies. Problems associated with individualized instruction tend to support this teacher practice.

Good and Brophy (1987) identify several issues or concerns surrounding the use of individualized instruction that should be considered in using this method in the multigrade classroom:

- Research on teaching has found that active, direct instruction produces higher rates of academic achievements for basic skills rather than other instructional methods. Individualization eliminates this active teaching element from learning.
- Learning higher cognitive process such as problem solving, creativity and thinking strategies are not easily taught without the direct involvement of the teacher.
- Students are too often left on their own to learn, leaving the materials to provide the instruction. This often leads to mastery of skills without the ability to apply them.
- The principles of individualization require that pacing, materials and strategies need to be developed and tailored for each student. This is not feasible for most teachers in terms of resources of time and materials.

In summary, Good and Brophy (1987) do not recommend individualizing instruction if it means that students will spend most of their time working alone trying to learn from materials. Instead, they suggest using individualization when the teacher:

> . . . attempts to accommodate individuals' needs within the group context and to achieve an appropriate balance of instructional activities (whole-class instruction, small group instruction and cooperative learning activities, individual work). (p. 374)

What this means for the multigrade teacher is a need to maintain a central role in student learning, but one that encourages and enhances the development of self-direction and responsibility without abdicating responsibility for student learning.

Using Computers as an Instructional Tool

One of the potentially most powerful tools for facilitating instruction in the multigrade classroom is the use of microcomputers. Because the microcomputer can provide interactive learning experiences with immediate feedback for students, it works well for independent and individualized learning experiences. A majority of teachers at the Ashland conference on multigrade instruction indicated they used computers for instructional purposes. Some teachers scheduled computer time for students to practice computational skills. Other teachers use the computer for writing, data collection, and for information management. For example, John Rusyniak, a K-12 multigrade teacher from Mentasta Lake, Alaska, has been heavily involved in helping students learn to write using a process approach that involves:

1. Pre-writing or "getting ready"
2. Writing or "trying it"
3. Revising or "let's try . . "
4. Responding or "what do you think?"
5. Editing or "oops!"
6. Publishing or "an author!"

Because of the prominent place writing and rewriting have in the process approach, John has found that using word processing on the computers greatly aids student writing. The most extensive use of the microcomputer came from Marty Karlin, a multigrade teacher of grades 4-8, from Trinity School in northern California.

Students in Karlin's classroom use the microcomputer as a tool for managing and retrieving information that will be used in student projects and then in writing reports. One such project focused on learning about school law and its impact on students. Using a data base on school law and word processing

programs, students prepared law briefs with the help of a local lawyer and then presented them before an actual court judge. During this project, students worked individually, in pairs, and in small cooperative workgroups. In addition, the subject areas of social studies and English were integrated into a real-life learning situation.

Another example described by Karlin focused on writing an informative essay. Students chose a topic relating to the Stone Age and wrote a one-page essay. The computer was used to organize and write the essay. Students also edited their final drafts with another student and a parent. Before handing in their final draft, they used a grammar and spelling checker on the computer to help with a final edit. This assignment was designed to function as an independent learning activity and was written to be self-instructional. The assignment follows on the next page.

Informative Essay

This assignment is to complete a *one-page* informative essay on some aspect of the Stone Age that interests you. You may choose from one of the following topics, or one that attracted your interest during your research for the bulletin board project. Your goal is to complete the assignment in one week or less. You will have 45 minutes each day in class to work on the computer and get with a student to do peer editing. It is recommended that you follow the schedule below:

Day 1: For homework:
Choose a topic
Find 10-20 facts

Day 2: In class and homework:
Type them into AppleWorks
Organize them
Write a topic sentence for each paragraph
Expand ideas and facts into sentences

Day 3: In class:
Write draft 1
Write a good introductory and concluding sentence
Take home and edit
Work on an illustration to go with essay

Day 4: In class:
Type in your edits
Get with one other student and peer edit
Type in edits
Print and make a copy. Turn one copy in for teacher edit, and take one copy home to edit with parent
Finalize illustration

Day 5: In class:
Type in edits. Run through grammar and spelling checker
Hand in

Topics:

- Stone Age Art
- Development of Tools
- The Role of Fire
- Migration
- The Rise of Farming
- Growth of Communities
- Stone Age People of a Particular Area
- Physical Development of Man
- Notable Accomplishments
- Stone Age People Today

The microcomputer offers a wide range of possibilities for aiding and supporting individualized instruction. The following overview adapted from Glatthorn (1987), describes the four most common uses of microcomputers in education:

The Computer as Manager of the Curriculum

A. Developing the Curriculum

1. Store and provide data on student performance and interests
2. Locate and retrieve exemplary scope-and-sequence charts
3. Locate and retrieve objectives from an objective bank
4. Locate and retrieve exemplary learning activities
5. Locate and retrieve appropriate learning materials

B. Facilitating and Monitoring the Learned Curriculum

1. Using student performance and interest data to identify appropriate objectives
2. Recording and storing student performance with individual learning objectives
3. Using performance data to suggest remediation, further exploration, or next new objectives

C. Aligning the Curriculum

1. Storing written curriculum in retrievable form
2. Storing teacher reports of objectives taught
3. Storing test items, matching test items with instruction
4. Storing test scores, providing achievement data in useable form

D. Evaluating the Curriculum

1. Storing, analyzing data on student and teacher perceptions
2. Storing, analyzing achievement data relevant to specific units, objectives

Computer as Deliverer of the Curriculum

A. Three Common Uses

1. Tutorial: Computer used to present lessons
2. Drill and Practice: Computer used to reinforce and remediate learning
3. Simulation: Learning to solve complex problems

Computer as a Tool in the Curriculum

A. The Four Most Common Tools:

1. Word Processing
2. Data Bases
3. Spread Sheets
4. Graphics Programs

Computer as the Curriculum

A. Learning About Computers:

1. Keyboarding Skills
2. Computers in Society
3. Computer Languages
4. Computer Applications (pp. 326-333)

Grouping as an Instructional Strategy

In traditional, single-graded classrooms, the teacher is responsible for trying to meet the various needs of 20 to 30 students. In the multigrade setting, these needs are even more numerous. To manage both the number of students and their range in ability, grouping strategies have been consistently used. The underlying principle behind this use of groups is that, "As the range of student ability increases, the role of whole-class instruction decreases" (Good & Brophy, 1987, p. 421). Students have been grouped in many different ways: by sex, interest, random assignment, and ability. But this should not be a reason for abandoning whole-class instruction, if used for appropriate purposes, it can be quite worthwhile for students. Obviously, some grouping practices prove more beneficial for some purposes than others. However, it is the quality of implementation and instruction that have the greatest impact on the results of any given method of grouping.

Working with Whole-Class Mixed-Ability Groups

What subjects and strategies are appropriate with mixed-ability groups? And what advantages are there for students and teachers in working with these groups in a whole-class format?

Like adults, students benefit from working in group situations where many different competencies, ages and points of view are represented. The old saying, "Two heads are better than one," applies here. Students also gain by increased contact with the teacher. In a similar manner, the teacher benefits by having more contact with all the students. Material preparation, monitoring student progress and behavior, and increased student engagement may be realized in working with the whole class.

Further, whole-class instruction, where students of differing abilities and ages work together, leads toward improved student relations. When students are organized and taught by grade levels, a status hierarchy often occurs between the grades. When grades are combined and taught together, this hierarchy breaks down, providing that instruction is organized around principles of cooperation.

As mentioned earlier, using recitation to teach basic skills to the whole class is ineffective because a wide range of abilities cannot be successfully accommodated. In addition, the negative effects of public evaluation using convergent questions stigmatizes lower performing students. But there are activities that work well in instructing to a mixed-ability class:

- speaking before the group (e.g. book reports, sharing, speeches, etc.)
- enhancing ideas during group discussion
- unit introductions and reviews, followed by level specific materials
- demonstrations of experiments
- some types of information exchange

- dramatic presentations and stories
- problem solving games
- managerial issues such as classroom rules, scheduling, and planning
- use of equipment
- sponge or anticipatory activities

Planning for Whole-Class Instruction

In preparing to teach a lesson to a whole multigrade class, careful planning and preparation are necessary. Figure 3 illustrates an example of a whole-class planning form for learning about sea creatures. The teacher would follow four general steps:

1. Choose a concept, theme or skill determined to be important to all students.
2. Decide on an activity to introduce the concept to the whole class.
3. Develop appropriate activities for each instructional level and pay special attention to:
    - Subject integration (e.g. writing, reading, science, math, etc.)
    - Needed resources
    - References students can use
    - How each level will be introduced to their activities
    - How students will be evaluated

If a teacher has a narrower range of levels to teach, then several grades could complete the same activity. Another approach when working with a narrow range of student levels is to require the same general activity, but add requirements for higher performing students.

Figure 3 illustrates a process for integrating or combining different subjects into one lesson. Although this lesson focuses on science, students are also engaged in writing, problem solving, art and research skills. Without integrating

FIGURE 3. WHOLE-CLASS PLANNING FORM

Instructions: The whole class can be taught together when a common topic can be identified that cuts across the different levels. In general, divergent or open ended tasks are the most appropriate.

1. Determine something all students need and write it in the box entitled, "General Presentation Topic or Concept."
2. Decide how you will present the topic or concept - game format, discussion, sharing session, etc. and put this in your lesson.
3. Enter the activities for each level into the "Level/Group" boxes. If your lesson is quite detailed, you may wish to use a separate sheet of paper for filling in the details for each level.
4. Prepare the activities and decide how each will be introduced to the different levels. For younger children, you may need to directly teach the activity, but for older, more self-directed students, the instruction may be written.

General Presentation Topic or Concept

Discover and discuss various characteristics of sea creatures -- Brainstorm and group according to common features.

Color and label sea creature book.

Activity for Level/Group *1 and 2*

Read the story, "A Day in the Life of Walley Whale." Draw a picture of Walley and write 5 characteristics you learned about whales.

Activity for Level/Group *3*

Create a sea creature book by drawing each creature discussed and writing two or more facts about each one.

Activity for Level/Group *4*

Research a sea creature of your choice and write a short report. Use illustrations.

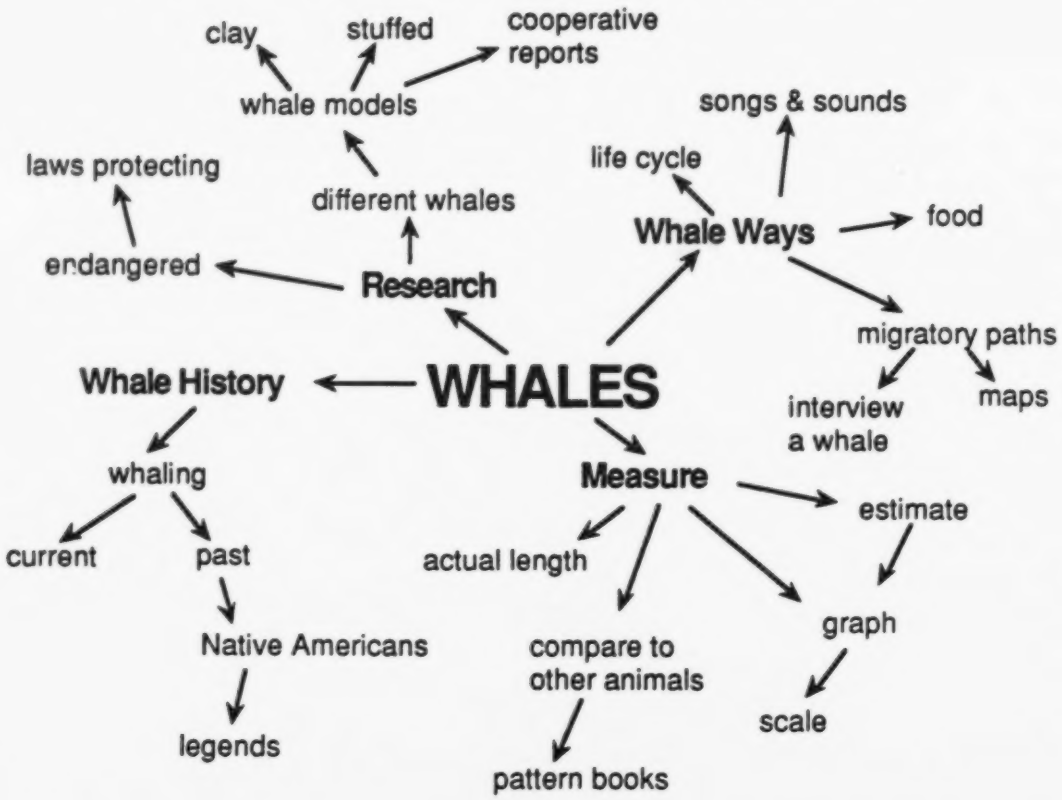
Activity for Level/Group *5 and 6*

(adapted from Fogarty, 1979)

subject areas, multigrade teachers would not be able to allocate sufficient time to each subject area.

Cathy Griswold (1987), a multigrade teacher from Oregon, has developed a planning process for the integration of different subjects areas. Using a process called clustering, Griswold picks a theme and then elaborates different related topics. When clustering, the teacher should keep in mind how topics relate to different subject areas. Figure 4 presents an example of clustering around the theme of whales. From the web of whale-related themes, Griswold suggests the teacher select topics for lesson development, then develop objectives and activities appropriate for each level.

FIGURE 4. AN EXAMPLE OF TOPIC DEVELOPMENT



(adapted from Griswold, 1987, Whale Lesson)

Ability Grouping

Next to whole-class grouping, the most common form of grouping is by ability. The purpose behind ability grouping is to make instruction more effective by reducing the variability among students. It is believed that the more homogeneous a group, the easier and more effective the instruction. This belief is so pervasive in schools that numerous variations have been developed and systematically implemented across a wide range of educational settings. At the elementary level these generally include:

Graded organization: The most universal form of ability grouping is by administrative grade level. At this most basic level, students are assigned to classes by their age, which is based on the belief that students at a specific age have highly similar developmental and academic characteristics.

Ability-grouped class assignment: Students are assigned on the basis of ability or achievement to one self-contained class. If a school had three first grades, these would be organized into a low ability class, an average class and an accelerated class.

Regrouping within the same grade level: Students from heterogeneous self-contained classrooms at the same grade level are regrouped for reading and/or math during a portion of the day. Instruction takes place in an ability assigned class.

The Joplin Plan: Students are assigned to subject area ability groups across several grade levels. For example, during reading instruction, students would go to their assigned reading groups across a range of grades. One group might consist of several students from grades 3, 4, 5 and 6 while a second group might consist of grades 6, 7 and 8.

Nongrade organization: Instead of assigning students to classes by age, they are assigned to flexible groups according to their academic performance level. Students are usually assigned to homeroom class for purposes of organization and monitoring.

Within-class ability grouping: Students are grouped within a heterogeneous self-contained classroom by ability or achievement level for specific subjects, usually reading and math.

Pull-out programs: Students are grouped by ability or achievement level for special classes during parts of the school day. The most common examples are special education, remedial reading and math and accelerated learning.

Research Findings

In a comprehensive review of the research literature on ability grouping in elementary schools, Slavin (1987, 1988, 1989) reported that the various grouping plans had differential effects on student achievement:

Ability-grouped class assignment: Assigning students to self-contained classes according to general achievement or ability does not enhance student achievement.

Within-grade regrouping: The research is unclear regarding the achievement outcomes when students attend ability-grouped classes for a period of the day in reading and math. There is some evidence that such plans can be effective provided that the level and pace of instruction is adapted to the regrouped class.

The Joplin and Nongraded Plans: There is good evidence that grouping students across grade levels for reading and mathematics has consistent positive effects on achievement.

Within-class ability grouping: There is evidence to support this practice in mathematics for upper elementary grades if the number and size of groups are kept small. Little research has been conducted in areas other than mathematics.

Pull-out programs: The most commonly used pullout programs are in remedial reading or math and use a diagnostic-prescriptive model. These programs have shown no evidence of effectiveness. However, one-on-one remedial tutoring programs (using older students and/or volunteers) and computer-assisted instruction using drill and practice programs have demonstrated convincing evidence of effectiveness.

What implications or guidelines can be drawn from this research on ability grouping? Slavin identifies five principles that should be considered when placing students in ability groups:

1. Students should remain in heterogeneous classes at most times and be regrouped by ability only in subjects in which reducing heterogeneity is particularly important (e.g., reading, mathematics). Students' primary identification should be with a heterogeneous class.

2. Grouping should reduce student heterogeneity in the specific skill being taught (e.g., reading, mathematics), not just in IQ or overall achievement.

3. Grouping should frequently reassess student placements and should be flexible enough to allow for easy reassignments after initial placement.

4. Teachers should actually vary their level and pace of instruction to correspond to students' levels of readiness and learning rates in regrouped classes.

5. Within the classroom, the number of ability groups should be kept small to allow for adequate direct instruction from the teacher for each group. (p. 328)

Implications for the Multigrade Classroom

Many of these findings on ability grouping need to be interpreted in light of the unique organizational patterns found in multigrade settings. Taken as a whole, this research evidence strongly supports mixed-ability classroom organization which is normal in the multigrade classroom. Although this body of research does not reflect the extreme variation in student ability found in multigrade settings, it does provide guidelines for using ability grouping while maintaining the integrity of the heterogeneous class.

When Should Ability Grouping be Used?

Ability grouping is best suited for teaching basic skills in reading and math where the content primarily reflects convergent information. In this situation, it is critically important to reduce the amount of variation in student ability, preferably using diagnostic reading or math assessment procedures. (A notable exception is the development of cooperative learning structures for teaching basic skills in mixed-ability groups which will be discussed later.) This ensures that students are grouped by specific needs criteria rather than general beliefs regarding ability.

The Joplin and nongraded plans appear the most appropriate because they allow for grouping across age-grade distinctions. For example, in a classroom consisting of 2 first graders, 1 third grader, 4 fourth graders and 2 sixth graders,

forming four grade level groups is unlikely to meet individual students' needs because some students may be performing quite differently at each grade level. A more effective strategy would be to assess how well they read using both written and oral assessment tools. Once you determine what their reading strengths and needs are, then form flexible groups. One grouping pattern might look like the following:

Group 1: 2 first graders, 1 third grader and 1 fourth grader

Group 2: 2 fourth graders and 1 sixth grader

Group 3: 1 fourth grader and 1 sixth grader

If you were using a nongraded approach, there would be no grade level distinctions in terms of classroom organization. Students would be assigned for instruction by level or skills clusters. Often, textbooks provide provisions for grouping by achievement level that use reading inventories, pre and post tests and a system for tracking student progress.

Ability Grouping Should Be Flexible

Research has demonstrated that inflexible ability grouping does more harm than good, especially for lower achieving students. This is because of differential teacher treatment between the different groups. Students in the low groups usually receive poorer quality instruction and materials because teacher expectations for what the student can do are quite low. Over time, students internalize these teacher expectations and begin to believe they simply don't have the ability to do better. In other words, research has consistently demonstrated that ability groups receive unequal treatment and esteem with the lower performing students receiving the most negative effects (Rosenbaum, 1980).

In observations of students grouped by reading ability, Eder (cited in Good & Brophy, 1987) discovered three key reasons for this unequal treatment:

- Poor readers usually are assigned to groups where the social behavior is not conducive to learning (e.g., lowered motivation and off-task behavior).
- Most immature and inattentive students are assigned to low groups thus creating managerial problems.
- Low students have less time to correct their mistakes before the teacher intervenes. In other words, where teacher wait time should be highest it is in fact lowest.

In addition, Good (1987) has noted that during class discussion lower performing students:

- have fewer opportunities to respond
- must respond more quickly when called on
- are less likely to receive praise when they respond correctly
- are more likely to be criticized when they are incorrect
- are more likely to be given the answer by someone else (teacher or another student) when they don't respond

Teachers can counteract these negative effects by varying grouping patterns, by ensuring that the quality of instruction remains consistently high, and by training and encouraging students to work cooperatively (Webb, 1982, Cohen, 1986). The next topic will provide more detail on strategies for implementing these changes.

Alternative Strategies for Grouping

In the multigrade classroom it is important to establish routines and schedules so that students understand what is expected. Predictable procedures and expectations facilitate student independence because students know how the classroom operates and what role they will play. However, carefully varying the group tasks can provide a measure of instructional flexibility that will be both beneficial to the students and the teacher. Two general approaches will be

discussed. The first focuses on providing a predictable variety of groupings that are generally related to some student need. In this sense, they reflect a form of ability grouping. The second focus is on cooperative workgroups. Special attention will be given to cooperative workgroups because of the power they have demonstrated in improving student performance in academics, behavior, and attitude while maintaining heterogeneous groups.

Varying Patterns of Grouping

Typical daily grouping schedules within the classroom for reading and writing tend to lock students into an unvarying pattern that often looks something like this:

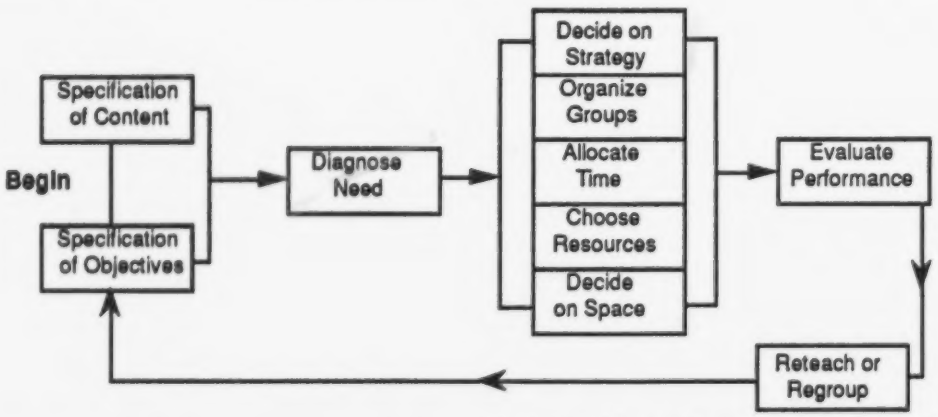
8:30 to 10:00	Reading Groups:	
	The Rainbows	8:30 to 9:00
	The Beacons	9:00 to 9:30
	The Raiders	9:30 to 10:00
10:00 to 10:15	Recess	
10:15 to 11:45	Writing Groups:	
	Grade 4	10:15 to 11:00
	Grade 3	11:00 to 11:45

During each group students are introduced to a new concept or they review an old one, followed by recitation and seatwork. While one group is completing seatwork, the teacher works with the next group. This pattern of instruction requires multiple preparations by the teacher and places great demand on teacher classroom organization and management skills. But from the students' perspective, the routine can become tedious and unmotivating. By interspersing these ability groups with flexible skills instruction, interest groups, or whole-class instruction, the teacher can maintain the emphasis on learning basic skills while improving student motivation and learning.

The Flexible Skills Group

One pattern that can facilitate instruction across grade boundaries is the flexible skills group. The teacher determines what skills in a particular subject or behavior area students do not know or may need to review and then forms groups based on common needs. Figure 5 provides a flowchart of the steps to follow in forming instructional groups according to diagnosed academic needs.

FIGURE 5. DIAGNOSTIC LEARNING LOOP FOR INSTRUCTIONAL GROUPING



(adapted from Yarrow, 1979, p. 44)

Moving from left to right, the steps are:

- knowing what you want students to learn (subject content and learning objectives)
- diagnosing what they don't know
- deciding on the strategies for instruction
- deciding on grouping strategies
- scheduling an appropriate amount of time
- choosing resources
- deciding on classroom organization
- evaluating the effects of instruction

- reteaching or beginning with a new objective

Figure 6 illustrates how one might go about organizing the groups based on the diagnosis of need. In this case, the teacher has found common errors in student writing for grades 3 through 6. Two groups were created. One student also needs tutoring on the use of adjectives. Notice that several students were included in the "question mark" group even though they do not have problems.

A teacher may decide that it is more efficient to teach to the entire group and that those students who know the skill will benefit from review. It is important to keep the amount of groupings low because they require time and organization. Keeping students in a group for review is one strategy that can be used. Other strategies to consider include independent study, extra projects or free reading.

This tracking chart works well for forming groups across a range of student learning. It can also be used for students in helping them set goals and keep track of their progress.

FIGURE 6. SAMPLE TRACKING AND GROUPING CHART FOR COMMONLY FOUND STUDENT WRITING ERRORS

Objectives / Student Names	periods	questions marks	commas	quotations marks	exclamations	adverbs	adjectives	action words	conjunctions	Etc.
Mike	+	+	+	+	+	-	+	-	-	
Jim	-	-	-	+	+	+	+	+	-	
Anna	+	+	-	+	-	-	+	+	-	
Sarah	+	-	+	-	-	+	+	+	-	
Nancy	+	-	-	-	-	+	+	+	-	
Miles	-	-	-	+	-	+	-	+	+	
Etc.										

Sample grouping arrangements:

Group 1. Instruction on using periods:

Jim
Miles

Group 2. Using question marks correctly:

Mike (review)
Jim
Anna (review)
Sarah
Nancy
Miles

Individual study on using adjectives:

Miles

Another strategy for specifying common learning objectives across several grades has been described by Dyer (1989). During textbook design, curriculum writers employ a concept called "spiralling," where learning objectives are repeated and built upon during subsequent grades. "Spiralling" helps build student retention. By pinpointing those objectives that overlap across grade level (i.e. "spiral"), a multigrade teacher can combine two or more grades for instruction. Dyer suggests that a teacher faced with a combined classroom could begin planning for each subject area by identifying concepts and skills that are repeated across grades. Intermediate grade elementary teachers in Dyer's study indicated that mathematics, health, and language lent themselves to this form of cross-grade planning and instruction. At the primary grade, teachers felt health, social studies, science, and mathematics were the easiest to plan and teach across grade levels.

To aid in planning, Dyer (1989) developed a planning form for each month of the school year:

SAMPLE CURRICULUM PLANNING FORM

	September	October	November	——> June
(subject)	Concepts and Skills _____ _____ Gr.____ Chs._____ pp._____ Gr.____ Chs._____ pp._____ Suppl.Materials _____ _____	Concepts and Skills _____ _____ Gr.____ Chs._____ pp._____ Gr.____ Chs._____ pp._____ Suppl.Materials _____ _____	Concepts and Skills _____ _____ Gr.____ Chs._____ pp._____ Gr.____ Chs._____ pp._____ Suppl.Materials _____ _____	Concepts and Skills _____ _____ Gr.____ Chs._____ pp._____ Gr.____ Chs._____ pp._____ Suppl.Materials _____ _____

To use the form, a teacher would sit down with several appropriate grade level textbooks for the desired subject and review the scope and sequence chart for repeated concepts and skills. These would be written in the planning form, noting

the grade, textbook chapter(s), pages, and supplemental materials. Like the tracking and grouping chart described in Figure 6 above, Dyer's planning form provides a simple way to monitor student progress. Although the planning form has been designed for two combined grades, it could be modified for more.

Grouping by Level of Self-Direction

Another topic area, and one especially important to the multigrade teacher, is self-direction. This is a set of behaviors characterized by responsibility, self-reliance, motivation, and effective study and research skills. Students who are self-directed can be counted on to set learning goals, keep on task, accomplish learning goals and work with little direct teacher supervision. It is important to specify the self-directed behaviors you desire in your classroom. Then plan, teach, and reinforce these behaviors so they become normal in the classroom. Some teachers have used a strategy called self-manager to designate those students who have been given extra responsibility because they have demonstrated high levels of self-direction. Using a grouping and tracking chart like the one previously described can serve as an effective tool for organizing instruction to ensure those who need certain skills will receive them.

Grouping by Interest

Another way to group students is by interest. Several strategies can be used to determine student interests. A paper and pencil interest inventory could be conducted, students might be interviewed, or the teacher could construct a menu of activities or subjects and ask students to choose the ones they would like to study. An example was submitted by Jill Bills, a multigrade teacher from Arizona. Jill developed a unit on planets. To select groups, she put the names of all the planets on the blackboard and asked students to choose a planet they would like to know more about. Students then wrote their names under their planet of choice.

Learning Centers

A learning center is a set of self-instruction activities designed so that students can use the materials located in the center without much teacher instruction. Learning centers are an excellent way to reinforce and enrich student learning. Unlike the grouping patterns just described, the learning center operates with little direct teacher supervision. Because of this, material preparation requires careful planning and organization. The following steps have been identified as important for learning centers to be effective:

1. Select a subject area.

   Example: Reading

2. Determine the skill or concept to be taught, reinforced, or enriched.

   Example: To teach the skill of rhyming

3. Develop the skill or concept into a learning activity: manipulating (cutting, pasting, matching), experimenting (observing, charting, keeping a log), listening or viewing.

   Example: Students will learn about rhyming by listening to a tape of rhymes and matching rhyming words to rhyming picture.

4. Prepare the skill or concept into an *applying activity*: filling in, arranging in order, putting together, taking apart, listing, classifying, matching, tracing, writing, locating, or labeling.

   Example: Student will apply the rhyming skill to games or worksheets which ask them to fill in the rhyming words, list words which rhyme, and classify words with the same rhyming sounds.

5. Incorporate the skill or concept into an *extending activity*: comparing, developing your own, researching, reconstructing, finding what other, or deciding what if.

   Example: Students will extend their skill or rhyming by writing their own poem, finding out about Edgar Allan Poe, or rewriting a nursery rhyme.

6. Place all the games, worksheets, charts, etc., together in one area of the room for children to use in a self-selected manner.

7. Develop some form of record keeping and evaluation so that both students and the teacher can account for time spent and learning accomplished at the learning center.

(adapted from Kaplan, et al., 1973, pp. 21-22)

Putting It All Together

Using various grouping patterns for reading instruction, a weekly schedule might take on a quite different appearance than the one described earlier:

Time	Subject	Monday	Tuesday	Wednesday	Thursday	Friday
8:30 to 10:30	reading	textbook (by level)	textbook (by level)	multilevel skill grouping	learning centers & teacher conferences	review & interest groups

Many variations of this sample schedule are possible, keeping in mind the need to balance available teacher time, teacher experience, student needs and maturity. Most importantly, it is better to go slow and plan well than to leap into a new strategy and have it fail.

Two Case Examples

The two case examples of grouping that follow were submitted by two multigrade teachers during the Ashland conference on multigrade instruction. The first example comes from Joel Anderson who teaches grades 4, 5, and 6 at the Onion Creek School in northeast Washington State. Anderson's example is especially interesting because it covers a 15 year period of time, describing the different changes that have occurred at Onion Creek School and how they were managed. The second example comes from Barbara Robinson, a K-3 teacher from southern Idaho. Robinson's example illustrates how the community can help ease

the demands of grouping across four grade levels. Both case examples illustrate, with rich detail, the ingenuity and creativity of effective multigrade teachers.

Case Example 1: History and Philosophy on Grouping at Onion Creek School

By Joel Anderson, Multigrade Teacher, Grades 4-6

When I came to Onion Creek School 15 years ago it was a one-room school. With my wife's help the school was able to have two teachers (for the price of one) which helped me maintain my sanity. She taught 1st-3rd, and I taught 4th-6th.

Since then the school has gone through many changes. Enrollment dropped; my wife found a paying job. I worked for awhile as the only teacher with the help of an aide. Then enrollment increased and my wife was hired to teach primary, and I went back to teaching 4th-6th. Enrollment increased more; we added kindergarten and another teacher so for awhile I taught only 5th and 6th. Now I am back teaching 4th-6th.

From the beginning I thought I could only teach the students as one large group taking into account the individual differences of the students. So we all worked on the same units. We have very few textbooks in our class; most all lessons are designed by me. (Exceptions are our current SRA Spelling series, our Junior Great Books used for interpretive reading discussions, and our Barnell-Loft reading skills series.) Over the years I have designed and redesigned units on different topics in science and health, social studies, reading, etc. I present a lesson to all my students together. Some of the topics, especially in language have been addressed year after year, though I usually change the form of the lesson. In social studies and science I teach topics on a three year cycle. (A few topics in social studies which are taught school wide to all grades at once are taught on a six year cycle.) This way we cover most of the material that is covered in most schools over the 4th-6th grade span.

Initially my units were designed for individual work. Students usually did most of the work by themselves. The requirements for each child varied according to the child's grade and/or ability level. I had and still have different expectations for students of different grades so everyone in my class would work on the same topic but the unit requirements would call for less from the younger students and more from the older ones. Tests and other evaluative methods would take into account the differences in age and ability.

Currently I still teach units and make a lot of allowances for individual differences, but I now encourage much more cooperative work. Students do much of the work in pairs or small groups. Usually I choose the group members, but on some occasions students choose their own partners.

I have come to agree with those supporting cooperative learning that individualized learning and competitive learning have many negative aspects which are especially accentuated in a multi-graded class where students are together for two, three, or more years.

When students are together so long they need to learn to respect and care for each other. There are bound to be large differences in ability especially when there

are students from three grades in the class, but when students work cooperatively with students in higher or lower grades I find that they all learn. All students have strengths and weaknesses. Having to work in small groups with all the other students in the class, children learn to make use of each other's skills. They help each other more and share their talents. They learn to appreciate the strengths that the other students possess. They learn that in doing so they can best succeed as a group. Working together they also learn toleration. They don't always like each other, but again if they are going to succeed they must be tolerant of each other's quirks and weaknesses.

GROUPS

I have my students work in groups as much as possible. Students are seldom grouped by age or grade; in most cases they are put in cross-graded groups. Years ago we got rid of desks and had students sit at tables so as to encourage group work. In my class students sit three to a table, and during the year each child sits and works with practically everyone else in the class several times. I usually switch seating every two weeks.

HOW TO ORGANIZE GROUPS

Draw Cards: I use this method sometimes to arrange my students in tables or to place them in groups. If I want three in a group I take three cards of each denomination. Then each child draws a card and goes with the other children who drew the same denomination, say all Aces are in one group, Twos in another, etc. This method results in heterogeneous groups. There may be three boys in a group, three children from the same grade, or two girls and a boy each from a different grade. I have found that my students like this method for placing children at tables as long as they drew new tables every two weeks and didn't have to sit at the same table or with any of the same people two times in a row.

Draw names from a jar: Early in the year I wrote the name of each of my students on a little card and placed the card in a jar. I drew names from the jar any number of times throughout the day. When holding a discussion I might draw names of students who would be asked to respond; or I might draw names of children to respond to a problem; or I might draw a name and ask for an answer from any of the children sitting at that child's table; or when playing a game where children play in pairs I might draw two names at a time to get pairs. The randomness of this method helps to ensure that children work at times with all the other children in the class so there might be a low achieving 4th grader working with a high achieving 6th grader. The children learn to take into account the others' strengths and weaknesses and they learn to work together and help each other.

Teacher made groups: There are a few times when I organize groups. I do this most often when children are playing simulation games or working on large group projects. I will try to set up the groups so there is a good mix according to age and ability.

Student made groups: There are also a few times when I let the students pick their own groups. This most often occurs when students are working on projects, say in social studies or science, and a couple of students want to work together on the same topic.

TABLE GROUPS/GROUPS OF THREE OR FOUR

For many of my activities I organize my students into table groups or groups of three. (Marilyn Burns in The Math Solution suggests cooperative groups of four.) I have my students sitting at tables of three students each. My tables are labeled A, 2, 3, 4, 5, 6. These labels correspond to the value of cards so to place my students I can have them draw from a deck of eighteen playing cards. Any time I want to change groups I can have the students draw again from the deck of cards.
To foster cooperation I have the students follow three rules (from Marilyn Burns):

1. You are responsible for your own work and behavior.
2. You must be willing to help any group member who asks.
3. You may ask the teacher for help only when everyone in your group has the same question.

These rules encourage good cooperative skills and help to lessen some of the demands on me. Students must work together, and help each other (when asked.) Rule 3 eliminates many questions about assignments that I've been asked to answer over and over. It also forces students to do more talking among themselves about the assignments. They get more chances to express their ideas and clarify their thinking.

WHEN I USE GROUPS IN MY CLASS

Math-Computation - When working on computation strand work, students most often work on their own at their own pace. If two (or more) students are working on the same level they may choose to work together. Or if someone is having problems learning a specific concept, that person may get help from someone at their table or from anyone else in the room.

Math-Problem Solving, etc. - For about half our math period we usually work all together. I may present a short lesson on problem solving, geometry, numbers, etc., and may offer problems to be solved. We may work on them as a class and I might draw names of students from the jar to get different responses, or I might ask the students to work on the problems at their table and present one answer agreed upon by all three students at their table.
Reading - I have an individualized reading program where children usually work on their own. They mostly read graded library books and work on reading skills from a Barnell-Loft series.

- I also use the Junior Great Books series. I use this for teaching critical reading skills. I group students according to their reading ability into 3 groups. I meet with each group once every 2 weeks for a 45 minute discussion of a story read.

- In the afternoons we have SSR (Sustained Silent Reading). Normally students read quietly by themselves for the fifteen minute period, but sometimes students pair up with students from the primary class and read with them.

Language

- **Storytelling** - We do a lot of oral work in my class, and students often work together on these activities. For storytelling students often work by themselves and then in pairs. First they learn a story, then they practice it on a partner (usually of their choosing) until they are ready to tell the story to the class.

- **Plays** - We have done plays when studying fairy tales and legends; we have done them to show specific incidents in history; and we've done them for fun and experience. Usually I will draw students' names from a jar to find members for a group. Aesop in the Afternoon has a number of plays for small and large groups and are great fun to do.

- **When studying fairy tales this year** I had the three students at each table act out a traditional Grimms' fairy tale. Then as a preliminary for writing their own fairy tales, the groups made up a fairy tale following traditional themes. Then they got together and wrote their own versions of the play they had put on.

- **Tell-and-Draw Stories** - My wife has done this activity with my class. At first my wife chose students for groups because some stories are easier to do than others. Students had to learn the stories and practice them for their small groups; then they had to practice them in front of their parents; finally they did the story for our class or for the pre-school or primary students.

- **Oral Presentations** - Most oral presentations or reports are done individually but sometimes students work in pairs or even in groups of three or four to make special reports for science or social studies. Sometimes the students choose their own partners and sometime I draw names for groups. The students usually write out a script so each participant knows what to say.

- **Daily Oral English** - To help learn grammar, punctuation, and usage skills we do a daily activity called Daily Oral Language. Two sentences are written on the board with a number of errors. Students are to rewrite the sentences correctly. They work together with the other students at their table comparing and correcting their papers until they think they have written the sentences correctly. Then I draw

a student's name from the jar and ask that person to tell me how to correct the sentence on the board. If the student is correct, all the students at the table are rewarded. Once a week I collect and correct all the papers and all the students at one table get the lowest grade given to any person at that table.

Science

When doing science all the students in the three grades work on the same activities. I have found that the TOPS units work great. Students get hands-on experiences. I usually have students work together in their table groups so they can interact and help each other out and share their discoveries. Other times we might have units that require book research and oral or written reports. Then I often allow two people to work together on the same topic and make a joint presentation to the class.

Social Studies

I use a unit approach in social studies. Each student is given a collection of papers which list required work that is expected of the child plus a description of the activities that may be done. The requirements vary with the ability level of each child. I expect the most from the older students with more ability than I do from the younger students. The unit usually involves a lot of individual work though I allow students to work with each other on parts of it and to drill each other on such things as map skills. Projects are often a requirement, and as in science some of the projects are designed for two or more students. In such cases I allow students to work with a friend if they both chose the same topic or if I expect a large group project I'll draw students' name from the jar to organize students into groups.

I also use simulation games purchased from INTERACT. For these activities students have to be in large groups and in most cases I pick the groups trying to get a good mixture of students in age and ability.

Case Example 2: Instructional Grouping at Arbon Elementary School

By Barbara Robinson, Multigrade Teacher, K-3

Arbon Elementary School employs a staff of three, two teachers and an aide. We serve children in kindergarten through sixth grade. Our building has two classrooms, one housing K-3 and the other 4-6. We have a large all-purpose room downstairs. Our aide works with the kindergarten under the supervision of the primary teacher.

Reading and Language

We frequently have two groups in kindergarten in reading. Those who know the letter sounds begin reading a series called Primary Phonics. Those who don't know the letters or letter sounds begin in a series, Getting Ready to Read. The first, second and third graders are cross grouped according to reading abilities. There may be as many as seven reading groups, but the upper level groups are not met with every day.

One day a week the groups from level 1-2 and up read from an SRA kit. These groups are for basal readers and supplementary reading.

To decrease interruptions when working with the small groups we use the "buddy system". The students must first check with everyone in their group to answer their question before they ask the teacher for help.

Language experience activities are taught as a whole-group activity with grades 1-3. The second half of the year the kindergarten participate also.

Math and Science

Students are grouped according to grade level in math. We use some peer tutoring in problem areas, but have not used ability grouping in this area.

Science is taught by grouping grades 1-3 and 4-6. For grades 1-3 we usually use third grade material. To do reading assignments or worksheets we pair up a mature reader with a younger one. Activities and experiments are done as a whole or in groups. The groups are varied according to the project.

Social Studies

In the primary room we group the first and second grades together for social studies. Third grade is taught separate. This arrangement is for instruction from a social studies text. For grades 1-3 we also do social studies units on topics such as Indians, Lewis and Clark Expedition, Eskimos, etc. These units are taught to the whole primary class. The 4-6 grades have successfully been taught as a group using a three year curriculum consisting of Idaho history, United States history, and world history.

Music and Physical Education

In music we started out using Silver Burdett's program, second grade material for grades 1-3 and fifth grade material for grades 4-6. This didn't work very well for us. We all lost interest in music. Then one of our musically talented dads volunteered to teach music, which he did for a year and that worked well. He taught grades 1-3 and grades 4-6 as two groups. The next year we decided to try recorders. Neither of the teachers had ever played them before but we both had musical backgrounds, so we thought we'd give them a try. They have been a great success. We started out just teaching the first, second and third grades together. The next year we added the new first graders. The past two years we've taught in two groups, first and second combined and third through sixth. We wrote the music out on large sheets of paper and pinned it to the board. We directed note by note which assured that everyone was on the right note at the right time. We do recorders only the second half of the year. In the primary room the first half of the year we sing and play musical games. We have discovered there are many good children's albums with songs and activities the children enjoy. To help the children learn the lyrics we print them on large pieces of paper and it's not long before they have them memorized.

In PE this past year we have been fortunate in having talented volunteers from our community to help with instruction. For these subjects the students were grouped with grades 1-3 together and 4-6 together. The kindergarten were sometimes grouped with the 1-3 and sometimes worked separately.

It can be seen from reviewing these two case examples that each teacher relied heavily on the ability of students to work together. Both teachers used some form of a "buddy system" where students helped each other solve problems, thus freeing the teacher to help students without interruption. Students were also grouped across grade levels and taught as a class in numerous subjects such as language arts, science and social studies. These are just two of the many strategies multigrade teachers employ to produce effective instruction with a wide range of student abilities.

However, beneath these strategies lies a complex process of teaching and socialization. Students do not just help each other and work cooperatively because the teacher expects it. Successful multigrade teachers translate their expectations for cooperation into actions through modeling, creating opportunities for students to work together, and specifying the characteristics of effective cooperation. Over the last 15 years, a growing body of research on cooperation in the classroom has produced invaluable information to aid teachers desiring to implement cooperative workgroups in their classrooms. The following section provides an overview of this research along with strategies and guidelines for facilitating cooperation.

Cooperative Groupwork

Groupwork is a term used by Cohen (1986) to describe a special kind of group that is small enough so that every student can participate in the completion of a clearly assigned task. In workgroups, students work on their task without direct supervision of the teacher. This requires that students be trained in cooperative work behaviors and that the teacher carefully orchestrates the implementation of groupwork. Kagan (1989) identified three approaches to cooperative groupwork. Although there are overlapping elements to each approach, they are sufficiently different to justify a brief description of each.

Learning Together. This is an approach developed by Roger and David Johnson (1984) that emphasizes the use of cooperative learning principles for any subject or grade level. Teachers learn a series of 18 steps that guide them through the development and implementation of cooperative learning activities. These steps include:

1. Clearly specifying the objectives of the lesson
2. Making decisions about placing students in workgroups before the lesson begins
3. Clearly explaining the task, goal structure, and learning activity to the students
4. Monitoring the effectiveness of the cooperative learning groups and intervening to provide task assistance (such as answering questions and teaching task skills) or to increase students' interpersonal and group skills
5. Evaluating achievement and helping students discuss how well they collaborated with each other (p. 26)

The Structural Approach. Kagan (1989) has developed an approach based on the concept of cooperative learning structures. These are content-free learning strategies that can be applied to any grade or subject. Each structure has a required series of steps and specific behavior for each step. For example, in the "numbered heads together" structure, there are four steps:

1. The teacher has students number off within groups, so that each is student 1, 2, 3, and 4.
2. The teacher asks a high-consensus question, such as, "What is the capital of California?"
3. The teacher tells the students to put their heads together to make sure everyone on the team knows the answer.
4. The teacher calls a number (1, 2, 3, or 4) and only the students with that number can raise their hands to respond. (p. 5:3)

The structural approach emphasizes a concept called the "domain of usefulness." Structures serve different purposes and objectives. The teacher's role is to match a specific structure with the particular needs students may have. In this sense, the structural approach is quite adaptable to existing curriculum. Four questions may guide the teacher's use of these cooperative structures:

1. What cognitive level (recall, comprehension, application, etc.) do I want to emphasize?

2. What social skills (active listening, consensus seeking, etc.) do my students need?

3. Where is the best place in my lesson plan (motivational introduction, defining goals, practice, etc.) for this structure?

4. What structure will work best with the curriculum the students will be learning (writing skills, learning math facts, etc.). (p. 5:5)

Curriculum Specific Packages. Unlike the structural approach where each structure is content free and may be used with a wide variety of grade levels and subjects, packages are content bound. In other words, packages incorporate a number of structures and tasks that have been married to specific curriculum content. The most notable examples are Team Accelerated Instruction (TAI) and Cooperative Integrated Reading and Composition (CIRC) developed by Robert Slavin (1986) and Finding Out/Descubrimiento (FO/D) developed by De Avila and Duncon (1980). TAI is a cooperative math curriculum that combines cooperative learning and individualized instruction. CIRC focuses on reading, writing, spelling and English mechanics using an integrated language arts approach. FO/D uses activities in science and math in a Spanish/English setting. All three cooperative learning approaches have incorporated principles of effective instruction and include ongoing teacher training and support.

In reviewing the different cooperative learning approaches, Kagan (1989) has delineated six key elements common to effective cooperative workgroups:

Heterogeneous teams or small groups that reflect, where possible, the general make up of the class: high, middle, and low achievers; boys and girls; and an ethnic and linguistic mix.

Example: A classroom of 20 students has been organized into five groups, each consisting of a high, a low, and two average performing students. Each group has a balance of boys and girls.

Positive Interdependence occurs when the gains of one individual are positively related to the gains of other group members. For example, this might mean that the team gets a grade or score based on the average individual scores of its members. If team success means an average individual score of 80 percent, then each member must score 80 percent or higher to receive a reward (grade, extra benefit, or personal satisfaction).

Example: The students in the "Task Master" workgroup have recently completed a group report on the sea life of Micronesia. Each student prepared a different section of the report .

Individual accountability is necessary for producing consistent academic gains. If each team member is not held accountable for task quality and completion, then it is possible to have team members who do nothing but rely on "go getters" for success.

> Example: Each member of the "Task Master's" team received an individual grade on their section. A team grade was given that was based on the average of their individual scores.

Social Skills are a necessary part of cooperation, but vary depending on the structure and complexity of the cooperative activity. Social skills are learned in a variety of ways: direct instruction, modeling, role-playing, observing, reinforcing, and practicing.

> Example: The "Task Masters" had learned from other cooperative activities how to: give supportive feedback, reach consensus, and ensure that everyone actively participates in task completion. Without these social skills, they would not have been able to complete their report on sea life.

Structuring the cooperative learning task in order to achieve desired social and academic goals is a powerful strategy for learning. Cooperative worktasks can be used for increasing student participation, increasing responsibility, improving listening, developing tutoring skills and enhancing student interpersonal relations.

> Example: Over the last several months, the teacher had set specific social and academic goals for the various cooperative workgroups in her class. She structured learning so students would develop the necessary skills for a rather complex cooperative group writing project. The "Task Masters" demonstrated that they had acquired the prerequisite skills for the cooperative writing project by successfully completing their paper on sea life.

Processing refers to the stage in cooperative work where individuals, the team or the entire class assess their success in terms of social skill development ("Did we listen to each member's contributions?") or academic development ("What did we learn today?"). Feedback about how the process worked is usually followed by a discussion and plan for improvement.

> Example: The "Task Masters" credited their success as a team because they had always evaluated how well they worked together after each task. When they first started working as a team, they did not know how to listen to each other or be helpful. The teacher structured feedback sessions to help them look at how well they worked together. She also helped them set improvement goals and, when appropriate, demonstrated desired cooperative behavior.

What these elements and examples illustrated is the complex and structured nature of learning to cooperate in small workgroups. Many traditional classrooms use small group learning for reading, math and occasionally for projects in subjects such as social studies and art. However, the general pattern tends to be one in which students are put together in groups and either directed by the teacher or left on their own to complete a given task. In Table 4, Johnson and Johnson (1984) have done an excellent job in summarizing the differences between cooperative and traditional workgroups:

TABLE 4. A COMPARISON OF THE ELEMENTS OF COOPERATIVE AND TRADITIONAL LEARNING GROUPS

Cooperative Learning Groups	Traditional Learning Groups
Positive interdependence	No interdependence
Individual accountability	No individual accountability
Heterogeneous	Homogeneous
Shared leadership	One appointed leader
Shared responsibilities for each other	Responsibilities only for self
Task and maintenance emphasized	Only task emphasized
Social skill directly taught	Social skills assumed and ignored
Teacher observes and intervenes	Teacher ignores group functioning
Groups process their effectiveness	No group processing (p. 10)

In this section, the research on cooperative groupwork will be presented along with procedures and strategies for successful implementation. These will include setting up groupwork, training students for cooperation and defining the teachers' role when using cooperative workgroups.

Evidence of Effectiveness

Cooperative learning methods have demonstrated significant increases in student achievement, interpersonal relations, motivation to learn, and student self-esteem. The research on cooperative workgroups is quite extensive and provides

a detailed picture of the positive impact cooperative workgroup structures have on student learning. The benefits of cooperative groupwork have been clearly documented in the research as having positive effects equal or superior to traditional forms of instruction in seven general areas (Kagan, 1989):

Academic Achievement: In two separate meta-analyses of cooperative learning workgroup strategies, it was found that students had higher achievement than competitive or individualist learning structures across all age levels and subject areas. Further, it was found that when individual accountability was absent, students performed no better than comparison classrooms (Johnson & Johnson, 1981, and Slavin, 1983 as cited in Kagan, 1989).

Ethnic Relations: Slavin (1983, cited in Kagan, 1989) examined 14 experiments involving classrooms with diverse ethnic populations. Cross-ethnic relationships were better than in-control classrooms. Cooperative work structures appear to have a dramatic positive effect on race relations as compared to traditional learning structures.

Social Skills: Over 30 studies have demonstrated that cooperative learning groups improve student social skills and increase the variety of social strategies needed to work cooperatively with others. These include cooperative problem solving, empathy, willingness to give and receive help, improve communication skills and learning how to reward the behavior of fellow classmates (see Johnson & Johnson, 1984; Rosenholtz & Cohen, 1983; Kagan, 1989).

Self Esteem: Slavin (1983 as cited in Kagan, 1989) has identified 11 studies out of 14 he reviewed that demonstrate significant gains favoring cooperative learning workgroups. None of the studies indicated a negative effect, while none favored traditional learning structures.

Self-Direction: Kagan (1989) reports that students in cooperative learning classrooms tend to demonstrate more internal control of learning than students from traditional classrooms. Students also appear to be more internally motivated.

Liking for Class: About one half of the 22 studies reviewed by Slavin (1983) for indicators of positive school climate favored the cooperative learning classrooms.

Role-Taking Abilities: Students in cooperative learning workgroups demonstrate an increased ability to assume different cognitive and affective roles (Rosenholtz & Cohen, 1983; Johnson & Johnson, 1983, cited in Kagan, 1989).

Planning Groupwork

Planning for cooperative learning activities is absolutely essential if cooperative groupwork is to succeed. The end result of a carefully planned out program will well justify the time and effort invested. It is beyond the scope of this paper to give anything more than a brief overview of the key issues involved in implementing cooperative workgroup learning. However, at the end of this paper is a detailed list of resources where information, research and training may be obtained.

Five general areas of planning must be considered (Cohen, 1986):

1. **Deciding on how students will work together:** Will they work in very structured tutoring pairs? Will they work at learning centers? Will they work in small teams? Will they be primarily engaged in drill and practice, group investigation, group discussion or problem solving?

   Here is where you established your cooperative learning goals based on what purpose(s) you wish to achieve.

2. **Deciding on the training program for developing cooperative skills:** How will students learn the necessary cooperative skills? Will they learn cooperation while engaged in a cooperative activity? Or will you try to prepare them in advance with some direct instruction and modeling?

3. **Deciding on the actual tasks your groups will perform**: The tasks you choose will depend on what you want students to learn. However, there are guidelines that will increase the success of your choice. Select tasks that:

   - Have more than one answer or more than one way to solve the problem
   - Are intrinsically interesting and rewarding
   - Allow different students to make different contributions
   - Use multimedia
   - Involve sight, sound, and touch
   - Require a variety of skills and behaviors

- Requires reading and writing
- Are challenging

Tasks do not work well for groupwork if they:

- Have unchallenging, single right answers
- Can be done more quickly and efficiently by one person than by a group
- Are too low level
- Involve simple memorization or routine learning (Cohen, (1986, pp. 57-58)

(If you implement cooperative learning through the structural approach of Kagan (1989) then you could begin with structures that require low level learning.)

4. **Lay the groundwork with great care**:
   - How are groups to be composed?
   - How will you physically arrange the classroom?
   - How and when will you assign students to groups?
5. **Decide on how your cooperative learning will be evaluated**: Will there be debriefing sessions after each strategy is tried? Will there be ongoing observation and feedback to workgroups? Will students be interviewed?

The secret to successful implementation lies in clarity--students must understand what they are supposed to be doing, and where they can turn for help if problems develop. Clarity is attained by having as simple a system as possible. Much of the clarity is achieved through careful planning and by training in advance for roles and cooperation. The steps for developing such a management system are briefly summarized here:

1. Cooperative norms need to be taught so students will know how they ought to behave and will enforce these behaviors in others.
2. Students should know which group they are in and where that group is supposed to be meeting; a minimum amount of time should be wasted in getting across this vital information.

3. Public and specific information as to who is to play what role and what specific behaviors are expected should be available as described in the previous chapter.

4. Each group should have clear instructions for the task available to them as they work; this will do much to prevent students from having to turn to you as a source of knowledge.

5. Students should have heard a good, brief orientation from you on the objectives of this task and on the criteria for evaluation. (Cohen, 1986, p. 93)

Learning Cooperative Skills

Cooperative groupwork is different than what most students are used to. In all classrooms, students learn special norms necessary for being a student (i.e. behaviors, values, attitudes and expectations). In the traditional classroom, these norms are characterized by competitiveness, working independently at one's seat, not sharing answers, and a clear understanding of who are the high and low students -- especially if one is among the low group. To learn in cooperative ways, students must internalize a much different set of norms:

- depending on fellow students for work completion
- being responsible for not only one's own behavior, but for the behavior of other students
- learning to listen and value what other students say
- giving other people a chance to talk
- learning how to make brief, sensible contributions to the group effort (Cohen, 1986, p. 35)

Table 5 provides an overview of specific cooperative skills found to be necessary for students to learn. Through experience, cooperative learning teachers have discovered that students can learn these skills as well, thereby enhancing the quality of learning. How are cooperative skills taught? Cohen (1986) points out that if students are to learn new behaviors, then five general conditions must be met:

TABLE 5. COOPERATIVE SKILLS

Task Skills:

1. Agenda Management
   - Setting an Agenda
   - Sticking to an Agenda
   - Managing Time
   - Revising Agenda
   - Summarizing Progress
2. Giving and Receiving Ideas
   - Setting [an] Open Atmosphere
     - Brainstorming
     - Forming [A] Wish List
   - Communication Skills
     - Active Listening/Paraphrasing
     - Relating to Ideas, Reactions of Others
     - Asking for Clarification
     - Maintaining Eye Contact
   - Conflict Resolution
     - Checking for Consensus
     - Seeking Basics for Lack of Consensus
     - Expressing Disagreement Constructively
     - Polite, Proactive Disagreement
     - Seeking the Higher Level Synthesis
   - Building on the Best Ideas
     - Evaluation of Ideas
     - Analysis & Synthesis

Social or Maintenance Skills:

3. Encouraging and Appreciating
   - Seeking Participation of All
   - Processing Feelings/Attitudes of All
   - Appreciating Individual Differences
4. Guiding Group Process
   - Checking
     (for: understanding, agreement, disagreement, participation)
   - Creating & Assigning Group Roles and Responsibilities
     (such as: Agenda Keeper, Secretary, Appreciator, Checkor)

(Kagan, 1989, p. 10:2)

1. New behavior must be labeled and discussed.
2. Students must learn to recognize when new behaviors occur.
3. Students must be able to use labels and discuss behavior in an objective way.
4. Students must have a chance to practice new behaviors.
5. New behaviors should be reinforced when they occur.

Like any new academic skill taught to students, behavior and social skills can be taught using instructional strategies to those used for teaching academic skills: modeling, direct instruction, practice, role play, simulation, monitoring and feedback and reinforcement.

The strategy teachers often use tends to be one in which students are engaged in an interdependent learning task that is highly motivating for students. For example, "Lost on the Moon" is an activity where students are placed in small groups and must solve a survival problem. Their ship has crashed on the moon. In order to survive, they must travel across the moon in order to reach a rescue station. The group tries to reach consensus on what supplies they must take in order to survive their journey.

Often, while students are engaged in actual practice, the desired cooperative skills are pre-taught and posted so students can refer to them while they are engaged in the learning task. Morris (cited in Cohen, 1986) provides a useful illustration of the types of skills needed for creating norms of equal participation:

- **Say your own ideas.**
- **Listen to others; give everyone a chance to talk.**
- **Ask others for their ideas.**
- **Give reasons for your ideas; discuss many different ideas.**

For helping students remember the skills needed during group discussion, the following questions were posted and reviewed:

- **Is everyone talking?**
- **Are you listening to each other?**
- **Are you asking questions? What could you ask to find out someone's ideas?**
- **Are you giving reasons for ideas and getting out different ideas?**

Deliberate teaching about cooperation through a series of cooperative tasks will create in students a preference for working in that way, even in situations outside the classroom. However, working together is not enough to eliminate problems of interpersonal conflict. Students must be taught the desirable behaviors required for the new learning situation. The acquisition of cooperative learning skills has long-term effects that can be transferred to new and different situations; children show values and behaviors that we can call prosocial (Cohen, 1986).

Conclusion

Adapting the classroom learning environment to the needs of students is a complex and demanding task, especially when teaching a multigrade class where diversity among classmates is extreme. But outside the classroom diversity is the normal condition that characterizes life. People must learn to work well with a wide variety of individuals in many different social settings. No single best approach has been defined for problem solving, getting along with co-workers, or learning something new. People learn and manage their lives in a variety of ways. The multigrade classroom, with its wide range of student levels, reflects this real life diversity better than any other classroom configuration. It is important that teaching

methods and grouping patterns reflect the variability of students being taught and help prepare them to live in our diverse and complex world. Therefore it is vital when planning for instruction to determine the academic, social, and cultural needs of students and to devise plans that best meets those needs.

Of course, it is impossible to develop a unique instructional program that will reflect all these areas and characteristics of each student. But we can plan and organize instruction that will take into account the variability of our students. We know from research on classroom teaching that we often ignore these important student characteristics and forge ahead, teaching the way *we* were taught. We know that:

- Thirty to forty percent of the students we teach need to move around, touch, or manipulate to learn best. They are kinesthetic and/or **tactile learners**.
- Thirty to forty percent of the students we teach are **visual learners**. They need demonstration because they learn quickly through seeing, photographing, drawing, watching films and real events.
- We know that students have **environmental preferences** such as time of day, need for snacks, light, placement of furniture that affect their motivation, interest, and ability.
- **Cultural and family influences** can often be overlooked by the teacher. A child's language and cultural background can affect the usefulness of a particular strategy and inhibit the student's learning. For example, some Native Americans have customs and traditions which make it extremely difficult for a child to be selected out for whole-class recitation. Other groups may find it difficult to work in small groups, while others may have trouble working alone.

And yet:

- **Most of all teaching** is primarily auditory, with teaching being "done" to the students by a lecture-recitation mode of instruction. However, only about 25 percent of all children learn best by listening (Multnomah Education Service District, 1983).

In this chapter, we have described a variety of instructional methods and grouping strategies that should facilitate multigrade (or multiability) instruction. In

no way has this been an exhaustive discussion. For those interested in more detail, a list of resources and references has been included. None of the methods and strategies described here are good or bad for all students, provided they are understood and used in an appropriate manner. This means careful, thorough, planning and implementation using a variety of methods and strategies. And always, we must continually assess the impact our instructional practices have on student social and academic growth.

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Resources

Blackwood, Lance. (1987). More like a school family, than just a teacher and his/her students: Is a one teacher school for you . . . ?. Anchorage, AK: L.C.'s Manner.

This booklet contains one teacher's opinion as "how to successfully and effectively teach in a small one-teacher school or other multigraded settings in rural Alaska." There are also useful ideas and strategies that would be beneficial to any multigrade teacher.

Available from: L.C.'s Manner
2440 E. Tudor Road
Suite 950
Anchorage, AK 99507
Price: $12.00

Burns, Marilyn.(1976). The book of think or how to solve problems twice your size (grades 5 and up). Boston: Little Brown and Company.

This book was recommended by Joel Anderson, a multigrade teacher from Onion Creek School in northeast Washington State. Anderson says this is an excellent resource for cooperative problem solving activities in mathematics.

Available from: Little Brown and Company
200 West St.
Waltham, MA 02254
Price: $7.95 (paper)

Burns, Marilyn. (1975). The I hate mathematics! Book. Boston: Little Brown and Company.

This book was also recommended by Joel Anderson.

Available from: Little Brown and Company
200 West St.
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Price: $7.95 (paper)

Collingwood, Ian. (1988). Multiclass teaching in primary schools: A handbook for Vanuatu. Port-Vila, Republic of Vanuatu: Ministry of Education.

This booklet presents issues and strategies relating to teaching in a multigrade classroom in the Republic of Vanuatu. The booklet is divided into 8 chapters, including such topics as "organizing your classroom," "planning your work," and "lively learning activities to try in your classroom."

Available from: Ministry of Education
Republic of Vanuatu
Price: not available

Cohen, Elizabeth. (1986). Designing groupwork. New York, NY: Teachers College Press.

This handbook provides strategies for starting groupwork in your classroom and details the research supporting cooperative workgroups. The book is written in a direct, clear style that makes reading easy.

Available from: Teachers College Press
Columbia University
New York, NY 10027
Price: $13.95

Dyer, T. A., (1989). Teaching splits: Strategies for combination classrooms. Bly, Oregon: Author.

The research paper describes what teachers of combined grades do to successfully cope with a two-grade classroom. Dyer visited more than ten combination classrooms and interviewed the teachers. This report summarizes his findings.

Available from: Thomas Dyer
P.O. Box 47
Bly, OR 97622
Price: unknown

Good, Thomas L. and Brophy, Jere E. (1987). Looking in classrooms. New York, NY: Harper and Row Publishers.

This book may be one of the most exhaustive collections of effective teaching information to date. Filled with practical, concrete ideas and strategies drawn from observations of effective teachers, this book is important for every professional library.

Available from: Harper and Row Publishers
Keystone Industrial Park
Scranton, PA 18512
Price: $26.75

Interact. (1989). A catalogue of elementary simulations. Lakeside, CA: Interact.

This company provides a large number of cooperative learning and integrated curriculum materials. It comes highly recommended by multigrade teachers.

Available from: Post Office Box 997G
Lakeside, CA 92040
Price: Free

Griswold, Cathy. (1987). Topic development for multi-level classrooms, K-5: Incorporating essential learning skills. Salem, Oregon: Oregon Department of Education.

This booklet was developed for the Oregon Department of Education as a resource for helping multigrade teachers integrate essential learning skills across subject areas. Griswold provides sample integrated lessons along with a guide for developing your own lessons.

Available from: Oregon Department of Education
700 Pringle Pkwy, S.E.
Salem, Oregon 97310
Price: Free (while supplies last)

Johnson, D.W., Johnson, R.T., Holubec, E.J., & Roy, P. (1984). Circles of learning: Cooperation in the classroom. Edward Brothers, Inc.

The authors present the underlying concepts regarding cooperative learning. Steps for implementing cooperation in your classroom and the research supporting it are also presented.

Available from: ASCD
125 N. West Street
Alexandria, Virginia 22314-2798
Price: $8.50

Joyce, Bruce and Weil, Marsha. (1986). Models of teaching. Englewood Cliffs, NJ: Prentice Hall, Inc.

This book reviews the most common models of teaching, including detailed examples and strategies for implementing each model. Examples of models included are: inquiry, concept attainment, inductive thinking, group investigation, etc.

Available from: Prentice Hall, Inc.
200 Old Tappan Rd.
Old Tappan, NJ 07675
Price: $40.00

Kagan, Spencer. (1989). Cooperative learning: Resources for teachers. Laguna Niguel, CA: Resources for Teachers.

This book provides a detailed guide for implementing the structural approach to cooperative learning. It includes a guide to resources in cooperative learning and an overview of cooperative learning research. There is a wealth of concrete strategies for teachers to use.

Available from: Resources for Teachers
27134 Paseo Espada #202
San Juan Capistrano, CA 92675
Price: $20.00

Oldfield, Margaret Jean. (unknown). Tell and draw stories; more tell and draw stories; lots more tell and draw stories. Minneapolis: Creative Storytime Press.

This book was recommended by Joel Anderson, a multigrade teacher from Onion Creek School in northeast Washington State. Anderson says this is an excellent resource for writing activities.

Available from: Creative Storytime Press
P.O. Box 572
Minneapolis, MN 55454
Price: $5.95 (paper)

Orlick, Terry. (1978). Cooperative sports and games book - challenge without Competition. New York: Pantheon Books.

This book was recommended by Joel Anderson, a multigrade teacher from Onion Creek School in northeast Washington State. Anderson says this is an excellent resource for cooperative sports and other activities.

Available from: Pantheon Books
201 E. 50th St.
New York, NY 10022
Price: $10.00

Slavin, Robert E. (1986). Using student team learning. Third edition. Baltimore, MD: Johns Hopkins University.

"This teacher's manual describes a set of practical instructional techniques that involve students in cooperative activities built around the learning of school subjects. These are techniques developed and researched at Johns Hopkins University, plus related methods developed elsewhere." (From the Introduction by Slavin, p. 5).

Available from: The Johns Hopkins Team Learning Project
Center for Research on Elementary and Middle Schools
Johns Hopkins University
3505 North Charles Street
Baltimore, Maryland 21218
Price: $8.95

TOPS Learning Systems. (1989). TOPS Learning Systems Catalogue of Science Materials. Canby, Oregon: TOPS Learning Systems.

TOPS Learning Systems produces science units. The materials use a worksheet format that is self-instructional and may be self-paced. All materials required to conduct the activities are inexpensive and/or commonly available. For example, the unit on electricity uses tinfoil instead of wire for conducting electricity. TOPS also produces units on magnetics, balancing and other science areas.

Available from: TOPS Learning Systems
10970 S. Mulino Road
Canby, OR 97013
Price: From $6.95 to $15.70.

Vail, Neil, and Papenfuss, Joseph. (1982). Daily oral language. Racine, WI: D.O.L. Publications.

Daily Oral Language was recommended by numerous multigrade teachers. It is a booklet of sentences that need to be edited and rewritten. The teachers who recommended it said they used them as a daily "sponge" or warm-up activity before lessons began.

Available from: D.O.L. Publications
1001 Kingston Avenue
Racine, WI 53402
Price: not available

Fogarty, M. (1979). Small schools: Organization and teaching methods. (ERIC Document Reproduction Service No. ED 223 395)

This booklet addresses issues relating to small schools organization. Sections regarding the teaching of reading, mathematics, social studies, science, physical education, language arts, and art are presented. Aspects such as objectives, content, methodologies, organizing time and space and resources are also discussed.

Available from: ERIC
3900 Wheeler Ave.
Alexandria, VA 22304-6409
1-800-227 3742
Price: $14.00

Wellington Department of Education. (1977). The rural school: A handbook for principals and staff. Wellington, New Zealand: E.C. Keating, Government Printer.

This booklet addresses issues relating to small schools organization. Sections regarding planning programs in language, drama, reading, mathematics, social studies, science, and health are presented. In addition, this booklet discusses issues relating to the role of the supervisor and/or principal in working with rural, isolated schools.

Available from: Wellington Department of Education
Wellington, New Zealand
Price: not available

"I constantly monitor observable self-management activities such as:

- *Students keep track of their own schedules and are ready for group instruction time with the teacher.*
- *Students distribute their tasks over an hour and then go to self-correcting centers, where they get immediate feedback, record their own progress, and receive stamps and stickers.*
- *Students must initiate effort, find materials, use references, and meet their own study goals.*
- *Students are held accountable for homework and receive tangible rewards.*
- *Students who manage their time well receive rewards such as recess and less homework."*

– Pat Reck
multigrade teacher

Chapter 6

Self-Directed Learning

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SELF-DIRECTED LEARNING

The challenge for the multigrade teacher is to meet the individual needs of students in a classroom setting characterized by multiple levels of ability, achievement, and social and physical development. Although regular, single-grade classrooms also have a diversity of student levels, differences found in the multigrade classroom lead toward increased demands on teacher time and effort. Multigrade teachers, therefore, must be well organized, resourceful, and develop self-direction in students.

Pat Reck has taught seven different grade levels for the last two years in a one-room school in eastern Oregon. This range of levels required students to work independently while Reck met with small groups. She developed strategies for her students to become self-managed and independent learners. Students "were encouraged to self-correct" much of their own work, to schedule when assignments would be worked on, and to use each other as resources. Reck helped students develop self-direction because it was necessary in her one-room school.

As this example illustrates, the multigrade classroom teacher must develop self-directed skills in students. Self-directed learners work independently without teacher supervision, are self-starters, and are able to direct their own learning over tasks and time. This chapter of the handbook will focus on describing conditions that promote self-direction in the classroom, the behaviors and characteristics of successful self-directed learners, and strategies and activities for developing self-direction.

What Is Self-Directed Learning?

Self-directed learning is learning which is wholly or partly under the control of the learner. A highly accomplished self-directed learner willingly assumes

responsibility for choosing appropriate learning strategies and remains intrinsically motivated for the duration of the project or activity. Developing self-directed learners is a worthy goal for any classroom, but is particularly relevant for multigrade settings. However, designing and maintaining a classroom where self-directed learning flourishes is quite challenging. The teaching strategies which encourage self-directed learning are often contrary to ones traditionally employed by teachers. In other words, many classrooms, multigrade or single grade, feature learning environments which unintentionally discourage self-directed learners.

Since whole group instruction is for the most part inappropriate for multigrade classrooms, fostering self-directed learners in multigrade settings has particular merit. Developing independent learners, or learners who can succeed in small groups because of their self-management skills, allows the multigrade teacher greater opportunity for positive academic activities with a wider range of students.

Although the skills and behaviors of self-directed learners are almost self-evident, they resemble quite closely what could be called the characteristics of a "good student." Guglielmino (1977) characterizes a successful self-directed learner as one who:

> Exhibits initiative, independence, and persistence in learning; one who accepts responsibility for his or her own learning and views problems as challenges, not obstacles; one who is capable of self-discipline and has a high degree of curiosity; one who has a strong desire to learn or change and is self-confident; one who is able to use basic study skills, organize his or her time and set an appropriate pace for learning, and to develop a plan for completing work; one who enjoys learning and has a tendency to be goal-oriented. (p. 73)

Conditions Which Promote Self-Directed Learning

What kind of environments have been found to be conducive to the development of self-directed learners? Knowles (1975) clarifies the distinction

between traditional, teacher-directed learning environments and those reflecting an emphasis on self-direction. Table 1 provides an overview of Knowles' findings, indicating the underlying assumptions about the learner and their implications for the learning environment.

TABLE 1. ASSUMPTIONS REGARDING TEACHER-DIRECTED VERSUS SELF-DIRECTED LEARNING ENVIRONMENTS

Assumptions About the Learner	Teacher-Directed Environment	Self-Directed Environment
View of the Learner	Dependent	Independent
Role of the Learner's Experience	Starting point, but not essential	Rich resource, essential for learning
Learning Readiness	Varies by maturity level	Develops by tasks and problems
Learner Orientation	Subject or content centered	Task or problem centered
Learner Motivation	External rewards or punishments	Intrinsic, curiosity based

(Knowles, 1975, p. 60)

As Table 1 emphasizes, incorporating self-directed learning into any classroom requires more than just shifting to a different instructional approach. Self-directed learning demands a fresh look at assumptions about the learner, learning, self-motivation and the classroom environment. Despite the apparent value of fostering self-directed learning activities in any classroom, research on the appropriate methodology for achieving it is sketchy, but growing rapidly.

Issues and Concerns

Thomas, Strage and Curley (1988) examine three challenges related to self-directed learning:

1. Much is still to be learned about the ***spontaneous*** development of self-directed or autonomous learning behaviors. Research hasn't shown, for example, why certain children are more likely to be successful independent learners whereas others are not.

2. What is known about self-directed learning--gathered primarily from laboratory observations--suggests that classroom applications can be powerful, but implementation will be challenging. Developmental research on learning indicates that independent, self-directed learning activities are closely tied to physical maturity.

3. Teacher-directed learning has a well-developed repertoire of instructional strategies and techniques. Self-directed learning has no comparable collection of proven practices.

Self-directed learning activities are of primary concern to those multigrade instructors who have prized self-directed learners, and who recognized the importance of encouraging their development. It could be argued that one of the highest concerns of education in general is the creation and nurturing of self-directed learners. An adult who has not incorporated the skills of independent, self-directed learning will go through life with a tremendous handicap.

Although research on self-directed learning is still in the formative stage, guidelines for the development of classroom activities which allow and encourage autonomous learning are emerging. Since many students do grow into independent learners, it is obvious that some current classroom practices do encourage independent learning. An excellent starting point for developing self-directed learning is by observing student behaviors.

Self-Directed Learning Behaviors

Self-directed learning behaviors can be classified into two broad categories, the first cognitive and the second behavioral. Behavioral activities, or self-management activities, include motivation and volition (will or determination), time management, and maintaining effort. Cognitive activities include mental processes which select, elaborate, organize, monitor or otherwise process information.

Table 2 presents self-directed learning categories relating to student self-management.

TABLE 2. CLASSES OF SELF-DIRECTED LEARNING: SELF-DIRECTED MANAGEMENT ACTIVITIES

Category	Example Activities
Time management	Recognizing time requirements Keeping track of elapsed time Scheduling sufficient time Distributing time according to tasks
Effort management	Establishing a productive study environment Setting learning and achievement goals Initiating effort Finding materials Maintaining attention
Motivation or Volition	Monitoring attention Assessing strength and weaknesses of study habits Tracking time and effort management activities

(adapted from Thomas, Strage, & Curley, 1988, p. 316)

In the multigrade classroom, self-management activities tend to be of first concern to the teacher. Students who can manage their time, follow schedules, find needed resources, and stay on task until assignments are completed facilitate the teacher's ability to manage the diverse levels found in the classroom. Successful multigrade teachers create environments that encourage these skills.

Phil Gillies, a 4th, 5th, and 6th grade teacher from southern Idaho, points out that once students develop the work habits necessary for his classroom, they quickly teach them to younger students: "It was interesting that during the third year as a multigrade teacher, I noticed that those students I had for two years would say to the new 5th graders, 'This is what you have to do, this is the way we handle the

class'." A process of socialization occurred in Gillies' classroom where younger students learned from older ones what the teacher expected in terms of classroom routines.

Table 3 presents cognitive categories associated with self-direction, along with example activities for each category. Unfortunately, these skills are seldom

TABLE 3. CLASSES OF SELF-DIRECTED LEARNING: COGNITIVE ACTIVITIES

Category	Example Activities
Selection	Finding essential information and rejecting non-essential
	Taking notes
	Highlighting main ideas
Comprehension	Previewing material
	Using context clues
	Consulting resources and references
Memory enhancers	Reviewing material
	Mnemonic
	Self-tests
	Devising appropriate study strategies
Elaboration	Self-questioning
	Imagery
	Metaphors and analogies
Integration	Paraphrasing material
	Relational aids (charts, timelines)
	Using multiple but related sources
	Tapping prior knowledge
	Answers which extend beyond requirements
Monitoring	Recognizing what hasn't been mastered
	Awareness of personal strengths and weaknesses

(adapted from Thomas, Strage, & Curley, 1988, p. 316)

explicitly taught. This is due to a lack of knowledge on the part of practitioners about how best to teach them and to the failure of instructional materials to provide direction and activities (Durkin, 1983). In addition, Knowles (1975) has pointed out that most classrooms tend to be teacher directed, which reduces the opportunity for students to develop self-directed behavior.

Student Benefits

Creating and maintaining a classroom atmosphere conducive to self-directed learning benefits both students and teachers. A self-directed student--or, in simpler terms, a "good" student--enjoys significant advantages over students who are deficient in self-direction. Classrooms with self-directed students provide superb role models for weaker or younger students to emulate. This is why multigrade teachers tend to devote the greatest amount of time with younger students who have not developed self-directed skills. Therefore, by enhancing students' self-direction, multigrade teachers can devote a larger percentage of time to students with the greatest need. In other words, self-directed learners allow the teacher to work intensively with small groups or individuals who need additional support.

As the multigrade teacher emphasizes self-directed learning, a more efficient learning environment is created. One of the benefits of increased self-directed behavior is the accompanying increase in the amount of academic learning time. Academic learning time is directly related to student achievement, i.e., more academic learning time (ALT) leads to higher student achievement.

Encouraging students to have greater control over their learning improves their feelings of personal effectiveness and increases their motivation to learn. This bolstered sense of self-control should improve the likelihood of success in subsequent educational experiences. As the academic demands placed on

students grow, so does the need for an assumption of personal responsibility for learning.

Implications for Classrooms

Given that self-directed learning skills and behaviors are of considerable benefit to both students and teachers, what can teachers do to aid their development? Can assignments and activities be structured so that students gradually acquire the skills necessary to work independently? What instructional approaches best augment self-directed skill acquisition?

Before proceeding with general guidelines and suggestions for increasing the likelihood of self-directed student behaviors, the issue of student maturity and development must be briefly explored. Teacher expectations for student competence can be set too high or too low, with equally negative effects. Students who are overwhelmed by the complexity of an academic task will protect themselves by opting out of it in the initial stages. Students who are insufficiently challenged, or who face repetitive tasks with little relevance to their skill levels, may become bored, disengage themselves from the activity, or perform half-heartedly. Careful consideration must be given, then, to the age, maturity, and competence of the student(s) before designing or initiating self-directed learning activities. Thomas and others (1988) identify four general components for instructional activities which enhance self-directed learning:

1. Appropriate academic demands
2. Adequate instructional supports
3. Opportunities to learn and practice effective self-directed learning activities
4. Appropriate classroom goal structure

Academic demands should be structured so they are challenging but not frustrating. Expectations should be explicit and specific. That is, they should build on skills already mastered, yet force or encourage the learner to attempt new, more advanced skills. An academic task which places limited or no demands on a student will not reinforce self-directed learning strategies.

Instructional supports are activities or materials which provide feedback, progress checks, or otherwise guide the student toward an academic goal. These supports should not replace the self-directed learning activities of the student, but rather be a framework for the student's own efforts. For example, presenting the student with a list of main ideas from a chapter is not supportive, but presenting the student with the *characteristics* of a main idea is. Students will, in the latter case, discover the main ideas on their own and strengthen their cognitive abilities.

The more opportunities provided to students for practicing self-directed learning, the more likely they will acquire self-directed learning skills. It is best, therefore, that the classroom climate emphasize self-directed learning. This means that students will come to expect that they will monitor their own progress, be aware of their own skill levels, and be able to identify and gather the resources required to complete progressively more challenging academic tasks.

Of special interest to multigrade classroom teachers is the emphasis that self-directed learning places on eliminating the competitive climate from a classroom and replacing it with a cooperative atmosphere. Self-directed students must operate in an environment where learning is viewed as a benefit and a necessity for all, instead of a reward for the talented.

Table 4 displays general conditions for optimizing self-directed learning activities:

TABLE 4. CONDITIONS WHICH ENCOURAGE SELF-DIRECTED LEARNING AND STUDENT MOTIVATION

Rewards that are contingent on specific outcomes
Goals and a reward system that are public knowledge
Feedback that is frequent, immediate and contingent on performance
Individualistic, non-competitive environment
Evaluation based on specific, objective criteria
Evaluation that is private, not public
Rewards dispensed for effort, not just ability
Autonomy, including the opportunity for self-scheduling and reinforcement
Attributing success to effort, not natural ability

Multigrade classrooms should be on the forefront in future developments in self-directed learning activities, methods and assessments. Multigrade classrooms, in fact, will be a source for many of the promising practices identified in this area. It is important to note that **all** of the four components of self-directed learning activities--appropriate demands, instructional supports, adequate opportunity and appropriate goal structures--must be in place before self-directed learning will prosper. Demands without support, or excess support without concomitant demands, will not succeed.

Activities for Developing Self-Direction

What are some specific activities that multigrade teachers can do to foster self-direction? Gibbons and Phillips (1978) describe a series of activities to help students make the transition from teacher-directed learning to self-directed learning. Although many of these activities were designed for high school students, many can be easily applied to other levels of schooling. Table 5 presents

activities designed for the teacher and Table 6 presents those designed for students. In both tables, the activities beginning in the left column are those that should occur first. As one moves to the right columns, the requirements for student self-direction increase. This means, for example, that the last activity in Table 6 would assume the student had a high level of self-direction.

TABLE 5. TEACHER LEARNING ACTIVITIES FOR FOSTERING SELF-DIRECTION IN STUDENTS

Help students visualize the experience of self-direction. Model self-direction.	Establish one-to-one conferences to discuss the individual's learning behavior and progress.
Teach students to value self-directed learning by communicating how valuable it is to the teacher.	Clarify the teacher and student roles in a self-directed learning environment.
Help each student create a self-fulfilling prophecy of success as a self-directed learner. During interviews, conversations, planning sessions, and progress reviews, reinforce growth in self-direction.	Provide students with opportunities to be self-directed and provide support when they need it. However, do not "rescue them."
Organize a process such as contracting to structure time and effort. Set expectations and limits. Help students explore alternative activities.	Model respect for self-directed learning and encourage respect among the students.
Teach the new skills students require, such as goal setting, time management, and locating information.	Secure written commitment in a detailed learning contract and public commitment in peer groups.
Make opportunities for students to demonstrate their accomplishments. Reward them for their efforts.	Establish workgroups where students learn to complete tasks and projects cooperatively and with minimal teacher supervision.
	Model honesty and risk taking. Reaffirm the value of challenge, struggle and personal growth.

(adapted from Gibbons & Phillips, 1978)

TABLE 6. STUDENT LEARNING ACTIVITIES FOR FOSTERING SELF-DIRECTION IN STUDENTS

Students compile a list of self-directed learners and then list their personal characteristics: ways of learning and skills common among them. Produce a profile of the successful self-directed learner.	Students practice self-directed skills on new, challenging tasks.
Students set goals of how they would like to become more self-directed. List behaviors that would show progress.	Peer groups discuss behavioral changes achieved and successes accomplished by each individual.
Students assess their progress toward meeting their goal.	Students write contracts and practice skills. They also explore alternative learning activities.
Use heterogeneous small-group projects to allow for modeling leadership in self-directed activities by successful students.	Students gain reinforcement by tutoring peers and presenting completed projects as evidence of success.
Students rate themselves on scales of time management, organization, accomplishment, and resource identification.	Students engage in projects where in-depth mastery in one area is required.

(adapted from Gibbons & Phillips, 1978)

Conclusion

Self-directive behaviors are vitally important in the multigrade classroom. Students who can work independently, set goals, manage their time, and locate needed resources free the teacher to help students with the most need. However, developing self-direction is difficult and requires a learning environment different than the traditional, teacher-directed classroom. Self-direction is best fostered in a classroom where the teacher structures activities which develop such characteristics as independence, self-management, and cooperation. Such environments are also characterized by teacher expectations that reward risk

taking, personal goal setting, and task completion. Even though the development of conditions that nurture self-directed learning may require extra effort and the rethinking of many assumptions about the learner, the benefits for both the teacher and the student are significant.

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Thomas, J., Strage, A., and Curley, R. (1988). Improving students' self-directed learning: Issues and guidelines. The Elementary School Journal, 88(3), 313-326.

Resources

Della-Dora, Delmo & Blanchard, L. (Eds.). (1979). Moving toward self-directed learning. Alexandria, Virginia: ASCD

This book reviews the research on self-directed learning, provides practical strategies, and presents background information useful to anyone desiring to develop self-directed learning in students.

Available: ASCD
225 North Washington Street
Alexandria, Virginia 22314
Price: $4.75

McKisson, M. (1981). Chrysalis: Nurturing creative and independent thought in children, grades 4-12. Tucson, Arizona: Zephyr Press Learning Materials.

Chrysalis consists of eight units designed to develop thinking, creativity, appreciation of self and others, self-reliance, and abilities in independent learning and skills of research.

Available: Zephyr Press Learning Materials
430 South Essex Lane
Tucson, AZ 85711
Price: $29.95

"Peer tutoring is any instance when a student assists another student in learning. This can occur spontaneously (during recess for example) or as a planned part of a day's lesson."

– Monte Phoenix
multigrade teacher

"In math and reading, I use upper level students to tutor the lower level ones. For example, the 4th graders tutor the 1st graders and the 8th graders tutor the 5th graders. There are times I will invite the older students to come to the morning session and help the younger kids. I find it really good because there is language that only the students understand."

– James Makphie
multigrade teacher
Marjuro, Marshall Islands

Chapter 7

Planning and Using Peer Tutoring

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What is Peer Tutoring?

Outside of school, children learn from one another as a natural occurrence in daily life. A child having difficulty baiting a hook, building a bird house, baking a cake, or understanding model airplane directions will often rely on a brother, sister or friend for instruction, which usually involves both demonstration and explanation. In such situations, peer tutoring is taking place. Peer tutoring is cooperation between two or more students, where one individual imparts knowledge to the other(s). This can occur between students of the same age or grade (same-age tutoring) or between students of different ages or grades (cross-age tutoring). For example, when one student helps another student to learn math facts, we can say peer tutoring has taken place. This may be a sixth grade student helping a first grader or two first graders tutoring each other.

In the traditional, single-grade classroom, peer tutoring may occur on an incidental basis as when one student seeks help with a math problem from his or her neighbor. In the multigrade classroom, this incidental tutoring is an encouraged and necessary instructional activity. Research evidence specifically focusing on incidental tutoring in multigrade classrooms is non-existent. However, research on structured tutoring programs is abundant and overwhelmingly positive. Therefore, greater emphasis will be placed on structured tutoring. In addition, information collected from interviews and discussions with multigrade teachers supports the belief that underlying successful incidental tutoring are principles of effective instructional practice. This chapter of the multigrade handbook will describe both incidental and structured approaches to tutoring, paying special attention to those characteristics deemed successful by teachers and researchers.

Incidental Peer Tutoring

In the multigrade classroom, peer tutoring provides the teacher with a powerful strategy for extending the teacher's instructional influence. When teaching two or more different grades in a single classroom, especially when class size pushes above fifteen students, the teacher may have difficulty directly responding to individual student needs. Multigrade teachers reporting on their experiences with peer tutoring indicated a strong dependence on students helping one another (Ashland Multigrade Conference, 1989). In nearly all reports, teachers indicated peer tutoring occurred on an incidental basis. That is, tutoring was not generally a systematically planned activity. As Carol Spackman who teaches grades 4 through 8 in rural Utah points out, "Peer tutoring at [my school] is usually spontaneous." Spackman describes several examples:

> [Jerry] is a very low achiever. His interest span is very low and he completes very little work without help from someone. [Sarah] finishes her work quickly so I ask her to let [Jerry] read to her for 10 minutes a day.
>
> Work out problems together. (How do we do this math problem?)
>
> Have two students sit side by side with a newspaper and circle prepositions. The first [student] will circle 3 and then have the other [student] circle 3. Each student watches closely to make sure the learner is correct.

The four teachers at the Ashland multigrade conference who participated in the peer tutoring workgroup developed a set of case examples of how they used peer tutoring in their classrooms. A fictitious student named Joe is followed through a day in his multigrade school.

> English is Joe's first subject of the day. The class has been assigned to learn the definition of a noun and write 10 examples. Joe confuses nouns and verbs so Amy has been assigned to go outside with Joe and gather 10 things that are nouns. She is to demonstrate, for example, why he cannot pick up a "jump" or a "run," but that rocks and sticks are objects, and therefore, nouns.

Next is math. Joe is struggling with simple addition. He and Bob are going to a quiet corner with a container of bottle caps. Using these concrete objects, Bob will demonstrate simple addition to Joe, then assist Joe in working his own problems.

The next opportunity for peer tutoring for Joe is P.E., but with the roles reversed. A young student is having difficulty doing proper pushups, an exercise Joe is very good at. Joe is asked to demonstrate a proper push-up, then offer tips in helping the younger students. Joe's self-esteem is really boosted by being the "teacher" and he takes his task very seriously.

During spelling the class is divided into pairs for an individualized spelling program. Joe quizzes his partner on his word list. The words are checked for spelling errors, then the roles are reversed.

These multigrade teachers indicated that peer tutoring need "not be planned in the sense of being written in the plan book, but is part of a good teacher's mental arsenal of methods to help students." It is worth noting that these teachers each had several years of experience in the multigrade classroom. As successful multigrade teachers, they learned through experience to capitalize on the capabilities of their students to help one another. Seven different uses of peer tutoring in their classrooms were identified:

1. Drill each other -- spelling, math, etc.
2. Help other students develop a skill that the tutor possesses
3. Build self-esteem of the tutor
4. Peer modeling -- pushups, song, dancing, etc. (skills)
5. Ask a student to explain a concept in "kid language"
6. Let a student (or students) teach a chapter in social studies
7. Help each other with study skills and researching

In addition, they identified a set of instructions that would be helpful for the tutor to follow:

- Smile
- Be friendly
- Speak clearly
- Keep your voice to a whisper or whatever volume is appropriate
- Answer in a positive way. If the child makes a mistake, don't say things like "wrong" or "no, that isn't right" or "dummy." Instead say, "That's almost correct. Now listen while I repeat the word and then you repeat it after me."
- Acknowledge correct work with a "That's right," "Good job," or some other positive statement or positive gesture.

Structured Tutoring

Although the incidental tutoring described by the multigrade conference participants was described as "spontaneous" and "not something placed in the teacher's lesson plan book," it still has an element of structure. But the structure is based on years of classroom experience, where the teacher operates from "good teacher's mental arsenal of methods to help students." In other words, these teachers are able to match the needs of different students and apply an appropriate tutoring strategy in a spontaneous manner. However, when novice teachers enter the multigrade classroom, they generally do not have the advantage of years of experience. For these teachers, research-based guidelines for tutoring may prove of invaluable assistance.

What Tutoring Conditions Produce the Greatest Success?

Several features of peer tutoring have the greatest effect on student achievement and attitude:

1. Structured tutoring is more effective than is tutoring on an incidental basis.
2. Tutoring of shorter (0 - 4 weeks) duration appears to produce the best results. When tutoring continues past four weeks, there is a diminishing return.

3. Tutoring where lower level skills were taught and tested produced the best student outcomes.

4. Greater results occurred in math followed by reading than in other subject areas (Cohen, Kulik, & Kulik, 1982).

In using these results, remember that these conditions should not be viewed too narrowly or as absolutely necessary for successful peer tutoring. A large body of research on tutoring suggests that any organized and focused tutoring program will likely have a positive impact on student learning (see research reviews by Cohen, Kulik, & Kulik, 1982; Sharpley & Sharpley, 1981; Devin-Sheehan, l. et al, 1976). The type of tutoring program used should always be closely monitored to determine if desired changes in the learner are occurring, and if not, the likely causes. Because rural multigrade classrooms are often more informal than single-grade classrooms, tutoring activities may be implemented in a less structured, more spontaneous way.

What Effect Does Tutoring Have on the Tutor and the Learner?

Tutoring benefits both tutors and learners. Students being tutored outperformed their peers in the subjects being tutored. They expressed more positive attitudes toward the subject. Tutors also gained more positive attitudes toward the subjects they were teaching and a deeper understanding of area content. Clearly, tutoring programs are beneficial to students. Table 1 provides an overview of the positive effects of peer tutoring programs.

Many positive student outcomes have been found by researchers investigating the effects of peer tutoring. David Berliner (1988) does an excellent job summing up what multigrade classroom teachers have always known about the effects of peer tutoring:

> Dozens of studies show positive and substantial effects of peer and cross-age tutoring. Now we also know that, in comparison with other innovations, tutoring is theoretically sensible and more powerful. When we add the fact that it's also relatively inexpensive, it's time to ask why we don't see more peer and cross-age tutoring when we visit schools. (p. 15)

TABLE 1. COMMON EFFECTS FOUND IN PEER TUTORING PROGRAMS

Effect	Source
Improved academic achievement	Cohen, Kulik, & Kulik (1982), Walberg (1984), Price & Dequine (1982), Collins & Calevro (1974)
Improved motivation	Cohen & Kulik (1981), Lazerson (1980), Pierce (1982), Bierman & Furman (1981)
Improved use of instructional time	Hiebert (1980), Price & Dequine (1982)
Improved self-direction/ independence	Palinscar & Brown (1984), Hill & Tanveer (1981)
Improved attitude toward tutored subject area	Hill & Tanveer (1981), Cohen & Kulik (1981), Lazerson (1980)
Improved self-confidence	Hill & Tanveer (1981), Reed (1976), Sharpley & Sharpley (1981)

What Are the Characteristics of a Successful Peer Tutoring Program?

Teachers of successful tutoring programs:

- Start with clear and attainable goals
- Prepare the class by explaining the purpose and nature of peer or cross-age tutoring in school learning
- Ensure that materials, texts and learning objectives are similar or the same as those used by the teacher
- Select the simplest and most direct approach to having tutors present materials to their partners within the confines of the subject matter
- Work toward making tutoring materials as independent of the teacher as possible

- Review the goals, materials and procedures with tutors prior to instruction
- Avoid materials and activities where learners are repeating drills unrelated to their need or that have previously been used unsuccessfully
- Focus tutoring on academic skills and behaviors required in the classroom
- Use a consistent materials format that allows the tutor to focus on skills to be learned
- Monitor and reward the good work of tutors
- Monitor and recognize the gains made by learners
- Pay careful attention to the selection of tutors, ensuring a positive tutor-learner relationship (this does not necessarily mean that the tutor should be the best and the brightest)
- Carefully train tutors in the use of materials, the importance of a positive tutor-learner relationship, teaching strategies for the subject being tutored, giving corrective feedback and positive reinforcement
- Monitor tutor and learner relationships to ensure they are positive and that learning is taking place
- Carefully schedule and monitor tutoring times
- Provide continual support for the tutoring program
- Provide a method for tutors to track learner progress
- Clearly define a place for tutoring to occur either in or outside of the classroom

Developing a Peer Tutoring Program in Your Classroom

Before a tutoring program is implemented, six important question areas need to be reviewed and answered. Without having some idea of where you want to go and how you plan to get there, your chances of ever arriving are slim. The following questions will serve as a planning guide. You will also find a checklist consisting of questions and statements that will be helpful in thinking about what you have to do. The checklist is divided into sections that focus on selecting

students, deciding where tutoring will take place, scheduling, choosing materials and strategies, and evaluation.

Setting Goals and Choosing Learning Objectives

It is important that you specify the goals of your tutoring effort. What do you want to happen as a result of tutoring? Do you want to improve student performance in math or reading? Do you want to develop student self-direction and responsibility? Do you want to improve tutor self-esteem? Do you simply want to better manage the many different age levels of your multigrade classroom? Successful peer tutoring may have positive effects on many different areas at the same time, but the important thing is to be clear on your primary purpose for using tutoring.

Begin planning your tutoring program by writing down a few goals you would like to achieve. To help you write your own tutoring goals, several examples follow:

> Peer tutoring will be used in my classroom to increase achievement and on-task time in math for first and second graders.
>
> Peer tutoring will be used during oral reading to increase student fluency and motivation.
>
> Peer tutoring will be used to help students perform better on spelling quizzes.

Notice that each goal consists of two common elements: (1) who will receive the tutoring (first and second graders, all reading students, those performing poorly), and (2) what the tutoring will focus on (math achievement, on-task time, reading fluency, motivation and poor spelling performance). In deciding your goals, be sure to include these two elements.

Equally important is establishing specific objectives (learner outcomes) for each tutoring pair or group that can be easily assessed. The following example will help to illustrate setting a goal and an objective for tutoring:

> *Mrs. M decided to start a tutoring program to help Michael because he was performing poorly in division. Michael understood how to complete the problems, but his accuracy and speed were much slower than other students. Mrs. M determined that Michael did not know basic multiplication facts. He continually used his fingers. Mrs. M decided to use Bill as a tutor. He got along well with other students and could be counted on to follow-through on activities or tasks he started. Mrs. M described what Michael needed to learn.*

Michael's learning objective:

> *Michael will learn his times tables through the 4s so that he can finish a mixed facts worksheet in 2 minutes without missing more than five problems.*

Mrs. M wrote the learning objective so that it could be easily understood by Bill and Michael. Note that the objective has several important elements:

1. It is based on the student's classroom learning needs.
2. It is clear and easy for both the tutor and learner to understand.
3. It is easy to measure.

Remember, in developing plans, be sure you know <u>why</u> you want to use peer tutoring (tutoring goals) and what specific objective (learner outcome) tutoring pairs or groups will work on.

Deciding *Who* Will Be Involved in Tutoring

The selection and matching of tutor and learner is an important task. Topping (1988) identifies 10 crucial areas when considering who should participate in tutoring. These areas will help guide you in making decisions

regarding student participation. Each area is designed to be used for both the tutor and the learner.

(1) How will students be selected?

___Will you ask students or other teachers?

___Will you observe the students?

(2) What level of students will be tutored?

___Will you select same grade/age tutors or cross-age tutors, or both?

___What are the advantages and disadvantages of either approach?

(3) What kind of academic skills will the tutor have?

___Will you select tutors with higher than average scholastic ability?

___Will you select students with below average ability in order to help them develop their skills?

___Will you select students with the same scholastic ability?

(4) Have you thought about student relationships?

___How will you deal with existing positive or negative relationships among students?

___How will you deal with weak and strong personalities?

(5) Have you considered the number of students to be tutored?

___Will you begin with tutor/learner pairs or small groups?

___How large will the groups be?

___How many tutors can you effectively monitor?

(6) Have you considered student characteristics?

___How independent and responsible is the student?

___What are student work habits like?

___How cooperative is the student?

___Does the student get along well with others?

(7) How much consideration do you want to give to student preferences?

___How much will students have to say about who they work with?

___Will you have male-female pairs or only pairs of the same sex?

___Will you mix pairings by culture or race?

(Your knowledge of student working relationships and cultural backgrounds will be helpful.)

(8) How will you handle tutor absenteeism?

___Will you have standby tutors to fill in when one of the regular tutors is absent or quits?

___How many standbys will you have?

(9) Will you need to inform parents?

___How much information do parents in your community need regarding your tutorial program?

___How will you get information to parents if it is needed?

(10) Do you feel tutors will need special incentives?

___Do you feel it is necessary to reward tutors?

___Should the rewards be extrinsic (verbal praise, stickers, privileges)?

___Should the rewards be intrinsic (personal satisfaction)?

Deciding Where Tutoring Will Take Place

In organizing your classroom for tutoring, you need to consider what else will be going on during tutoring. If you choose to have tutoring occur in pairs during reading time, then the entire room might become a tutoring zone. However, if you have students of several ages in your room at once and you want older students to tutor younger students in math, you may need to designate a special area for tutoring. This may be either in the classroom or outside, depending on available

space. Whatever plan you choose, you should have your expectations for behavior clearly understood and tutoring areas well defined.

Scheduling the Tutoring Sessions

___Will tutoring occur during class time?

___During breaks or recess? After school?

___For what time periods will tutors work?

___Will it be the same time each day or will the times vary with student need?

Deciding What Subjects Will Be Tutored

___Reading: oral reading, word recognition, decoding, or comprehension?

___Math: tutor drill activities such as basic facts, or work in conceptual areas such as computation or problem solving?

___Language: tutor in expressive areas such as creative writing or reporting, or will the emphasis be placed in the areas of grammar and mechanics?

___Spelling: will students drill in words or in spelling rules?

___Science

___Social Studies

___Other

What curriculum area you choose will be guided by your knowledge of student need, available materials and, ultimately, the success of the tutor. Generally, there are two possible directions you may choose.

First, you may choose to focus on an academic content area such as math where the tutor helps a student learn basic addition facts or assists the teacher in reinforcing how to add numbers. Or you may choose to focus on open-ended learning, where the tutor provides help to younger students who may need a combination of supervision and tutoring in order to complete an activity.

For example, if the teacher assigns the primary grades to complete a series of plant activities in science that include planting a seed, collecting and labeling leaves and making a plant scrapbook, older students might help the primary children in completing these tasks. The difference between "academic content" and "open-ended learning" centers around the openness of the tasks. In the first case, there are clearly right and wrong answers, while in the second case, the end results may be quite different for each student. In addition, open-ended learning places greater emphasis on supervision and support than does a focus on convergent academic tasks (i.e. where there is only one correct answer).

Remember, whatever curricular area you choose will be determined by what you want to accomplish in tutoring and the needs of students.

Deciding on Tutoring Materials, Procedures and Strategies

When deciding how tutoring will take place, several key areas need to be addressed: Materials, tutoring strategies, tutor training, monitoring/feedback and evaluation. Using a list adapted from Topping (1988), each of these areas will be outlined:

Materials

(1)	Structure	___Will materials be highly structured and sequenced or open-ended?
		___Who will prepare structured materials or can existing materials be used?
(2)	Difficulty	___Will level of difficulty be controlled by the materials?
		___Will the skill level of the tutor limit difficulty?
(3)	Choice	___Will the tutor and learner have choices in the materials used?
		___Will they have a choice in how the materials will be used?

___Will the teacher decide on both materials and strategies?

(4) Sources ___What materials are available and where can they be obtained?

___Will materials have to be teacher-made?

___Will tutors be allowed to make their own materials?

(5) Storage ___Where will materials be stored?

___Who will have access to them: tutor? learner?

(6) Progression ___Who will determine when the learner should progress to the next activity, materials or skill?

Tutor Training (keep it brief)

(1) Expectations ___Will you model or role play how to tutor?

___How will you convey the importance of being positive and supportive in the tutoring relationship?

___How will you make your expectations for behavior clear?

___Will tutoring procedures (i.e. schedules, using materials, etc.) be in writing?

___How often will you meet to work with tutors and provide feedback on their performance?

Tutoring Approaches and Strategies

(1) Packaged Approach ___Will tutoring strategies be specified by the choice of materials or organization such as SRA instructional kits, Distar Direct Instruction, cooperative learning, reading text or workbooks?

(2) Drill and Practice ___Will you emphasize the importance of varying activities in order to increase learner motivation?

(3) Correction Procedures ___Will correction procedures be clear and simple--the tutor needs to either know the correct answers or where they may be found (e.g. answer sheets provided by the teacher)?

___ Will tutors be shown how to correct verbal responses?

(4) Praise

___ How will tutors know how often to give praise and what to say (i.e. "o.k.", "good", "you're doing great", etc.)?

___Will tutors be shown how to give both verbal and non-verbal praise in a genuine manner?

___Will tutors know how to avoid criticism and sarcasm, either in tone of voice or in words?

(5) Social Relationship

___Will tutors understand how to establish rapport by sharing interests, demonstrating concern, etc?

Monitoring/Feedback

(1) Methods

___Will you hold group discussions with the tutors? Learners?

___Will you directly observe the tutor-learner process (most revealing method)? What will you look for if you observe?

___Who else might observe and give you feedback?

(2) The Process

___Are the tutoring sessions occurring on schedule?

___Are the materials being used appropriately?

___Are the tutor and the learner working well together, without friction?

(3) Tutoring

___Was the tutor prepared for the lesson?

___Were materials ready?

___Did the tutor understand what was being taught?

___Did the tutor give clear directions?

___Did the tutor use negative reinforcement?

___Did the tutor use frequent positive reinforcement?

___Did the tutor actively involve the learner in the lesson?

___Was the tutor enthusiastic?

___Did the tutor keep the learner on task?

___Did the learner appear interested in the lesson?

___Did the learner complete the lesson?

(4) The Tutor

___Will tutors be responsible for keeping track of the learner's progress?

___If so, how will this be done (chart, workbook, graph, etc.)?

___Will the tutor be responsible to report progress to the teacher?

___If so, how often and in what form?

Evaluation

Evaluation is an essential part of tutoring. How will you know if you have achieved your goals unless you have some form of assessment? Your evaluation should reflect your program goals. If you said you wanted to use "peer tutoring to increase student fluency and motivation in reading," how would you know if this goal had been achieved? Do students who received tutoring read more fluently now than when they began tutoring? Do they act more motivated by checking out more books, volunteering to read during oral reading activities, or choose reading during free time?

The following list will provide you with some possible sources of information to help you assess the effect tutoring has had in your classroom:

___Interview learners

___Review textbook testing materials

___Observe learners and note changes in behavior

___Standardized testing

___Talk to the tutor

___Talk to parents

___Make up a test or use workbooks pages

Conclusion

Peer tutoring has been shown to improve student performance for the tutor and the learner in a number of important areas such as self-esteem, academics and motivation. In the multigrade classroom, tutoring has a history of extending the teacher's instructional influence. However, tutoring often appears to be a rather spontaneous, informal activity.

Information presented by multigrade conference participants indicates both purpose and structure. Because there are so many time demands placed on multigrade teachers, it is critically important to remember, "keep it simple and collect only what you need in order to make decisions regarding program change."

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Walberg, H. (May, 1984). Improving the productivity of America's schools. Educational Leadership 19-27.

Resources

Ashley, W., & And Others. Peer tutoring: A guide to program design. Research and development series no. 260. (ERIC Document Reproduction Service No. ED 268 372).

This publication presents guidelines for planning, implementing, and evaluating a peer tutoring program. Benefits, guidelines, and suggestions with examples for peer tutoring are presented. Resource materials and sample forms have also been included.

Available from: National Center for Research in Vocational Education
1960 Kenny Road
Columbus, OH 43210
Price: $10.50

Bloom, S. (1975). Peer and cross-age tutoring in the schools: An individualized supplement to group instruction (ERIC Document Reproduction Service No. ED 118 543).

This publication discusses tutoring concepts and developing a tutoring program for your classroom. A detailed bibliography is also included.

Available from: ERIC
3900 Wheeler Ave.
Alexandria, VA 22304-6409
1-800-227 3742
Price: $8.50

Ehly, S. Peer tutoring in the regular classroom: A guide for school psychologist (ERIC Document Reproduction Service No. ED 250 836).

This guide includes a general overview of the peer tutoring process, including selecting and pairing students, supervising the process, and scheduling. Training goals are specified along with the skills needed by tutors. A reference section with recommended readings has been appended.

Available from: National Association of School Psychologists
10 Overland Drive
Stratford, CT 06497
Price: $12.60

Topping, K. (1988). The peer tutoring handbook. Cambridge, Mass: Brookline Books.

This peer tutoring handbook provides a detailed set of checklists for setting up and running a peer-tutoring program. Research on tutoring has been reviewed and an extensive set of references included.

Available from: Brookline Books
P.O. Box 1046
Cambridge, MA 02238
Price: $18.95